SERVICE MANUAL EQ430

marantz®

model EQ430

Graphic Equalizer / Audio Mixer

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound. Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:
Parts can be ordered either by mail or by telex. In both cases, MARANTZ part number has to be specified. If you order by mail, fulfil MARANTZ order forms.

MARANTZ S.A.
EUROPEAN PARTS DEPARTMENT
2, Avenue Léopold III
B-7120 PERONNES-lez-BINCHE
BELGIUM
TWX: 57589 SEPLT B

The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

PARTS ORDERING:
Parts may be ordered from the following addresses:

EUROPE

MARANTZ S.A.
European Parts Department
2, Avenue Léopold III
B-7120 Péronnes-lez-Binche
Belgium
Telex: 57589

MARANTZ NORSKE A.S.
Refstadalleen 13
Oslo 5
Norway
Telex: 19659

MARANTZ DENMARK
Bregnerødvej 132b
3460 Birkerød
Denmark
Telex: 39137

MARANTZ GMBH AUSTRIA
Wiedner Hauptstrasse 98
1050 Wien
Austria
Telex: 113583

MARANTZ S.A.
326 Avenue Louise Bte 32
1050 Brussels
Belgium
Telex: 26602

MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

MARANTZ BELGIUM
45 Rue Auguste Van Zande
1080 Brussels
Belgium

MARANTZ SVENSKA A.B.
Svartviksvangen 56
Traneberg - Box 12016
16112 Bromma
Sweden
Telex: 13449

MARANTZ GERMANY GMBH
Max Planckstrasse, 22
6072 DREIEICH 1
West Germany
Telex: 4185316

MARANTZ AUDIO U.K. LTD.
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 OLW
Great Britain
Telex: 935196

AUSTRALIA

MARANTZ AUSTRALIA PTY., LTD.
32 Cross Street
Brookvale, N.S.W. 2100
Australia
Telex: 24121

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

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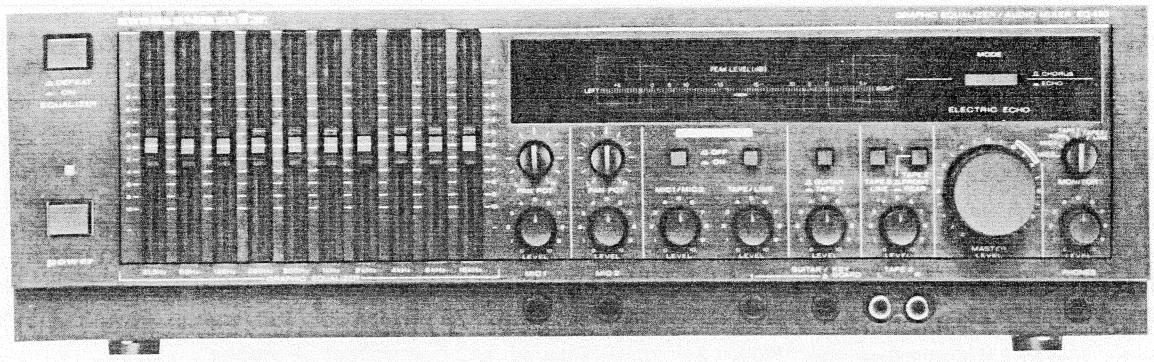
MODEL EQ430 GRAPHIC EQUALIZER/AUDIO MIXER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for the Marantz Model EQ430 Graphic Equalizer/Audio Mixer.

Servicing information and voltage data included in this manual are intended for use by knowledgeable and experienced personnel only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of circuitry operation.

The parts list furnishes complete ordering information. Most replacement parts should be ordered from the Marantz Company. However, a simple description is included for parts which can be obtained locally.

1. P.W. BOARDS

As can be seen from the circuit diagram chassis of Model EQ430 consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Pan Pot Volume . . . . mounted on P.W. Board PD01
2. Mic Echo Mixing . . . mounted on P.W. Board PE01
3. EQ. Display/ Power Supply . . . . . mounted on P.W. Board PG01
4. Equalizer Volume . . . mounted on P.W. Board PJ01
5. Power Switch . . . . . mounted on P.W. Board PK01
6. LED . . . . . mounted on P.W. Board PN01
7. Chorus/Echo Switch . mounted on P.W. Board PS01
8. Equalizer Switch . . . mounted on P.W. Board PT01
9. Master Volume . . . . . mounted on P.W. Board PV01
10. Mic Jack . . . . . mounted on P.W. Board PW01
11. Guitar Jack . . . . . mounted on P.W. Board PX01
12. Headphone Jack . . . . mounted on P.W. Board PY01
13. Pin Jack . . . . . mounted on P.W. Board PZ01

MN3101 (QE20)
CMOS Clock Generator/Driver for BBD's

- **Absolute Maximum Ratings** ($Ta=25^{\circ}C$)

Item	Symbol	Rating	Unit
Supply Voltage	V_{DD}	−18~+0.3	V
IN/OUT Terminal Voltage	V_1, V_0	V_{DD}−0.3~+0.3	V
Power dissipation	P_D	200	mW
Operating Temperature	T_{opr}	−10~+70	°C
Storage Temperature	T_{stg}	−30~+100	°C

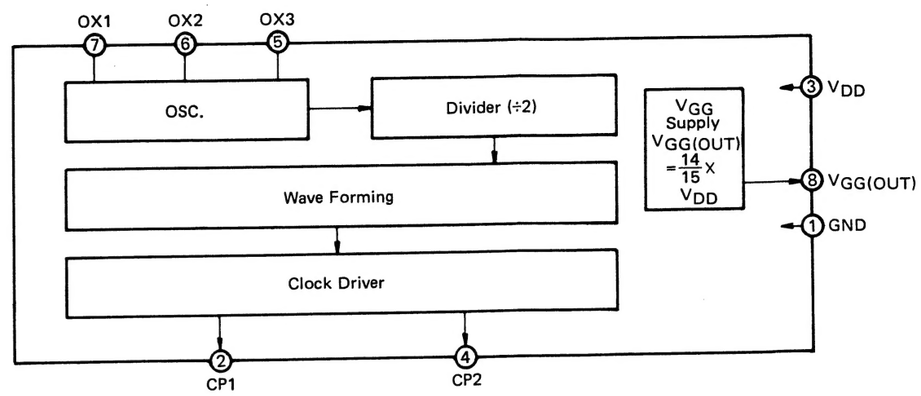
- **Operating Conditions** ($Ta=25^{\circ}C$)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage	V_{DD}	GND=0V	−8	−15	−16	V

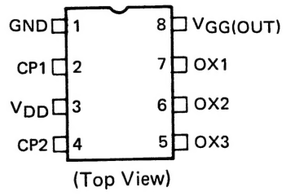
- **Electrical Characteristics** ($Ta=25^{\circ}C$, $V_{DD}=-15V$, GND=0V)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power Supply Current	I_{DD}	Nonload, clock output 40kHz		3		mA
Power dissipation	P_{tot}			45		mW
OX1 Input terminal						
High level Input Voltage	V_{IH}		0		−1	V
Low level Input Voltage	V_{IL}		V_{DD}+1		V_{DD}	V
Input leak Current	I_{Leak}	V_1=0~−15V			30	μA
OX2 Output terminal						
High level Output Current	$I_{OH(1)}$	V_0=−1V	0.6			mA
Low level Output Current	$I_{OL(1)}$	V_0=−14V	0.5			mA
Low level Output Leak Current	$I_{LOL(1)}$	$V_0=V_{DD}$			30	μA
High level Output Leak Current	$I_{LOH(1)}$	V_0=GND			30	μA
OX3 Output terminal						
High level Output Current	$I_{OH(2)}$	V_0=−1V	1.5			mA
Low level Output Current	$I_{OL(2)}$	V_0=−14V	2			mA
Low level Output Leak Current	$I_{LOL(2)}$	$V_0=V_{DD}$			30	μA
High level Output Current	$I_{LOH(2)}$	V_0=GND			30	μA
CP1, CP2 Output terminal						
High level Output Current	$I_{OH(3)}$	V_0=−1V	10			mA
Low level Output Current	$I_{OL(3)}$	V_0=−14V	10			mA
Low level Output Leak Current	$I_{LOL(3)}$	$V_0=V_{DD}$			30	μA
High level Output Leak Current	$I_{LOH(3)}$	V_0=GND			30	μA
$V_{GG(OUT)}$ Output terminal						
V_{GG} Output Voltage	$V_{GG(OUT)}$			−14		V

- **Block Diagram**



- **Terminal Connections**



(Top View)

MN3008 (QE15, QE18)
2048-Stage Low Noise BBD for Analog Signal Delays

- **Absolute Maximum Ratings** (Ta=25°C)

Item	Symbol	Rating	Unit
Terminal Voltage	V_{DD}, V_{GG}, V_{CP}, V_1	−18~+0.3	V
Output Voltage	V_0	−18~+0.3	V
Operating temperature	T_{opr}	−20~+60	°C
Storage temperature	T_{stg}	−55~+125	°C

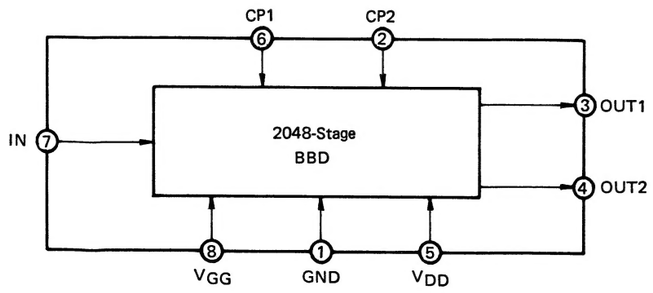
- **Operating Conditions** (Ta=25°C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	V_{DD}		−14	−15	−16	V
Supply voltage	V_{GG}			V_{DD}+1		V
High level clock voltage	V_{CPH}		0		−1	V
Low level clock voltage	V_{CPL}			V_{DD}		V
Clock frequency	f_{CP}		10		100	kHz
Pulse width (Clock Pulse)	$t_{w(CP)}$		0.4T		0.5T	
Rise up time (Clock Pulse)	$t_{r(CP)}$				500	ns
Fall down time (Clock Pulse)	$t_{f(CP)}$				500	ns
Clock cross point	V_x		0		−3	V
Clock input capacitance	C_{CP}				1400	pF
Input bias voltage (DC)	V_{Bias}		−5		−10	V

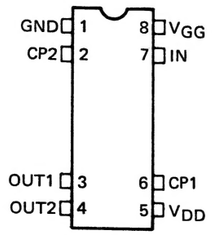
- **Electrical Characteristics** (Ta=25°C, V_{DD}=V_{CPL}=−15V, V_{CPH}=0V, V_{GG}=−14V, R_L=100kΩ)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Frequency input	f_i	f_{CP}=40kHz, V_i=1.2Vrms Output attenuation=3dB(0dB at f_i=1kHz)			10	kHz
Voltage input amplitude	ν_i	f_{CP}=40kHz, f_i=1kHz, THD=2.5%			1.2	Vrms
Insert loss	L_i	f_{CP}=40kHz, f_i=1kHz, V_i=1.2Vrms	−4	0	4	dB
Total harmonic distortion	THD	f_{CP}=40kHz, f_i=1kHz, V_i=0.78Vrms		0.5	2.5	%
Noise output voltage	V_{no}	f_{CP}=100kHz, A curveture hearing compensation			0.4	mVrms
Signal to Noise ratio	S/N			78		dB

- **Block Diagram**



- **Terminal Connections**



(Top View)

AN6882 (QG19, QG20, QG21)

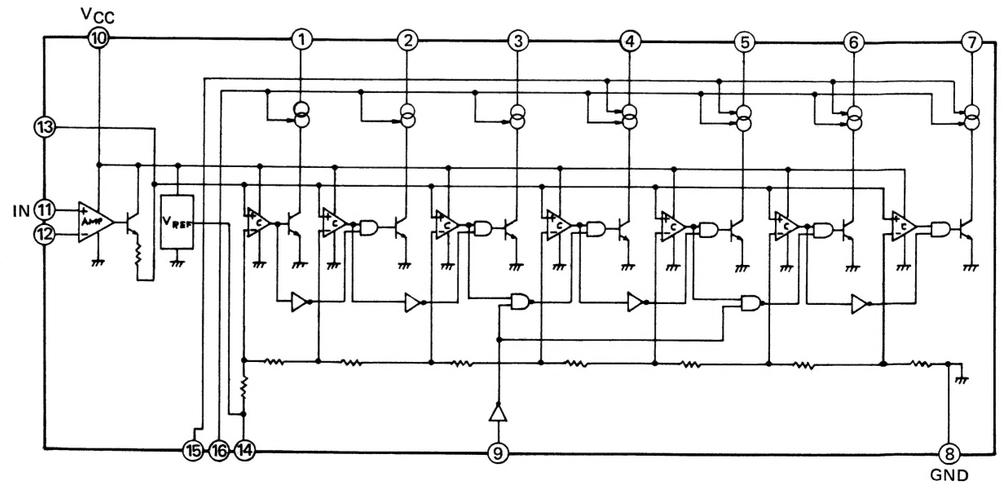
- **Absolute Maximum Ratings** (Ta=25°C)

Item	Symbol	Conditions	Unit
Power voltage	V_{CC}	18	V
Power current	I_{CC}	15	mA
Circuit voltage	V_{13}	7.5	V
D terminal out current	$I_{OUT(D)}$	30	mA
R_A terminal input current	I_{IN}	10	mA
Reference voltage output current	I_{REF}	10	mA
Loss allowance	P_D	530	mW
Ambient temperature	T_{opr}	−30~+75	°C
Storage temperature	T_{stg}	−55~+150	°C

- **Electrical Characteristics** (Ta=25°C)

Item	Symbol	Condition		Min.	Typ.	Max.	Unit
Current drain	I_{tot}	V_{CC}=12V, V_{11}=V_{13}=0V, R_A=4.7kΩ			5	10	mA
Output offset voltage	V_{13}	V_{CC}=12V, V_{11}=0V, V_G=16.5dB				75	mV
Reference voltage	V_{REF}	V_{CC}=6.2V ~ 16V		2.4	2.7	2.9	V
D terminal output current	I_{D1}~$D7$	V_{CC}=12V, V_{11}=2.7V		4.2	7.1	10	mA
	I_{D4}~$D7$	R_A=10kΩ	R_g=22kΩ	6.3	10.6	15	mA
Amplifier gain	V_G	V_{CC}=12V, V_{11}=50mV, R_1=18kΩ R_2=100kΩ, R_3=15kΩ		14.5		18.5	dB
Switching terminal voltage	V_9	V_{CC}=12V		0.45		0.8	V

- **Block Diagram**



STK6325C (QG17, QG18)

• Maximum Ratings (Ta = 25°C)

(Tentative)

Item	Symbol	Conditions	Limits	Unit
Max. supply voltage	V_{CC}		+16	V
	V_{EE}		−16	V
Power dissipation	Pd max.	Ta < 60°C	800	mW
Operated temperature	Topg		−20 ~ +70	°C
STorage temperature	Tstg		−40 ~ +100	°C

• Recommended Operating Conditions (Ta = 25°)

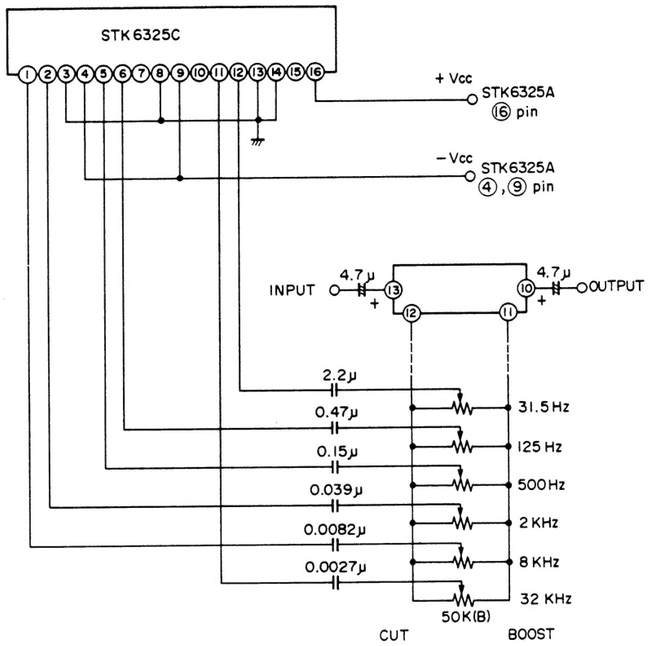
Item	Symbol	Conditions	Limits	Unit
Supply voltage	±V_{CC}		±12	V
	V_{CC}	at single power supply	24	V

• Operating Characteristics (Ta = 25°C, V_{CC} = 24V, with STK6325A)

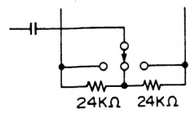
Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Quiescent current	I_{CCO}(1)	24		18		mA
	I_{CCO}(2)	±12V		7.5	14	mA
Frequency	f (1)	f = 31.5 Hz VR max./min.	±10	±12	±13	dB
	f (2)	f = 125 Hz Vo ref = 0.5V	±10.5	±12	±13	dB
	f (3)	f = 500 Hz	±10.5	±12	±13	dB
	f (4)	f = 2 kHz	±10.5	±12	±13	dB
	f (5)	f = 8 kHz	±10.5	±12	±13	dB
	f (6)	f = 32 kHz	±10.5	±12	±13	dB

Remarks: The above characteristics are based on the specified test circuit.

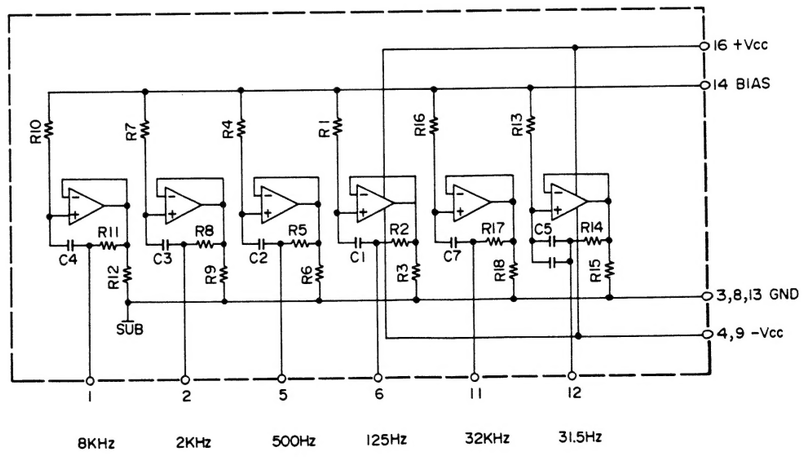
• STK6325C Test Circuit and Application (±V_{CC})



(1) Measurement: VR max./min. should be switched as follows.



• STK6325C Equivalent Circuit



STK6325A (QG15, QG16)

- **Maximum Ratings** (Ta = 25°C)

(Tentative)

Item	Symbol	Conditions	Limits	Unit
Max. supply voltage	V_{CC}		+16	V
	V_{EE}		−16	V
Power dissipation	Pd max.	Ta < 60°C	800	mV
Operating temperature	T_{opg}		−20 ~ +70	°C
Storage temperature	T_{stg}		−40 ~ +100	°C

- **Recommended Operating Conditions** (Ta = 25°)

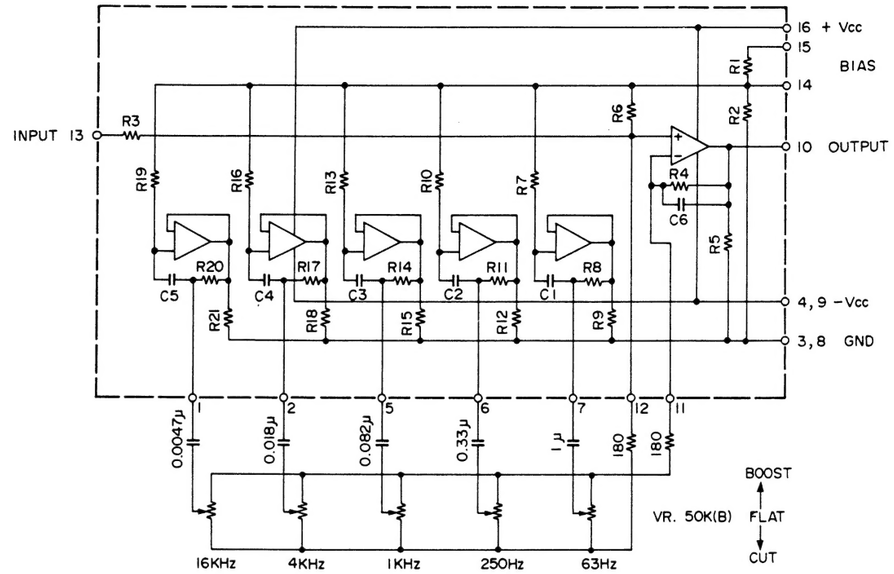
Item	Symbol	Conditions	Limits	Unit
Supply voltage	$\pm V_{CC}$		+12	V
	V_{CC}	at single power supply	24	V

- **Operating Characteristics** (Ta = 25°C, V_{CC} = 24V, f = 1 kHz, at FLAT position)

Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Quiescent current	I_{CCO} (1)	24V		28		mA
	I_{CCO} (2)	±12V		7.5	14	mA
Voltage gain	V_G		−1	0	+1	dB
Output voltage	V_O	THD = 1%	6.3	7.4		Vrms
Total harmonic dis.	THD	V_O = 1V		0.01	0.02	%
Output noise voltage	V_{NO}	R_g = 0Ω		0.1	0.3	mVrms
Frequency	f (1)	f = 63 Hz VR max./min.	±10	±12	±13	dB
	f (2)	f = 250 Hz Vo ref = 0.5V	±10.5	±12	±13	dB
	f (3)	f = 1 kHz	±10.5	±12	±13	dB
	f (4)	f = 4 kHz	±10.5	±12	±13	dB
	f (5)	f = 16 kHz	±10.5	±12	±13	dB
Input resistance	r_i			10k		Ω
Output resistance	r_o			200		Ω

Remarks: The above characteristics are based on the specified test circuit.

- **STK6325A Equivalent Circuit and Application**



2. ALIGNMENT

In BBD circuit, there is a adjustment point in order to minimize a distortion. When the IC (QE14, QE16, QE17, or QE19) in this circuit is changed, alignment must be done as following method.

a) In case of microphone block

Connect 1 kHz, 2.5 mV to the microphone jack 1.

Turn on the ON/OFF switch, ECHO/CHORUS of the microphone.

Connect a distortion meter or oscilloscope between TP1 and TP2 and adjust the trimmer resistor RF35 (100 k ohm) so as for distortion to become minimum.

b) In case of line block

Connect 1 kHz, 150 mV to the line-in jack.

Turn on the ON/OFF switch, ECHO/CHORUS of the LINE/TAPE.

Connect a distortion meter or oscilloscope between TP3 and TP2 and adjust the trimmer resistor RF57 (100 k ohm) so as for distortion to become minimum.

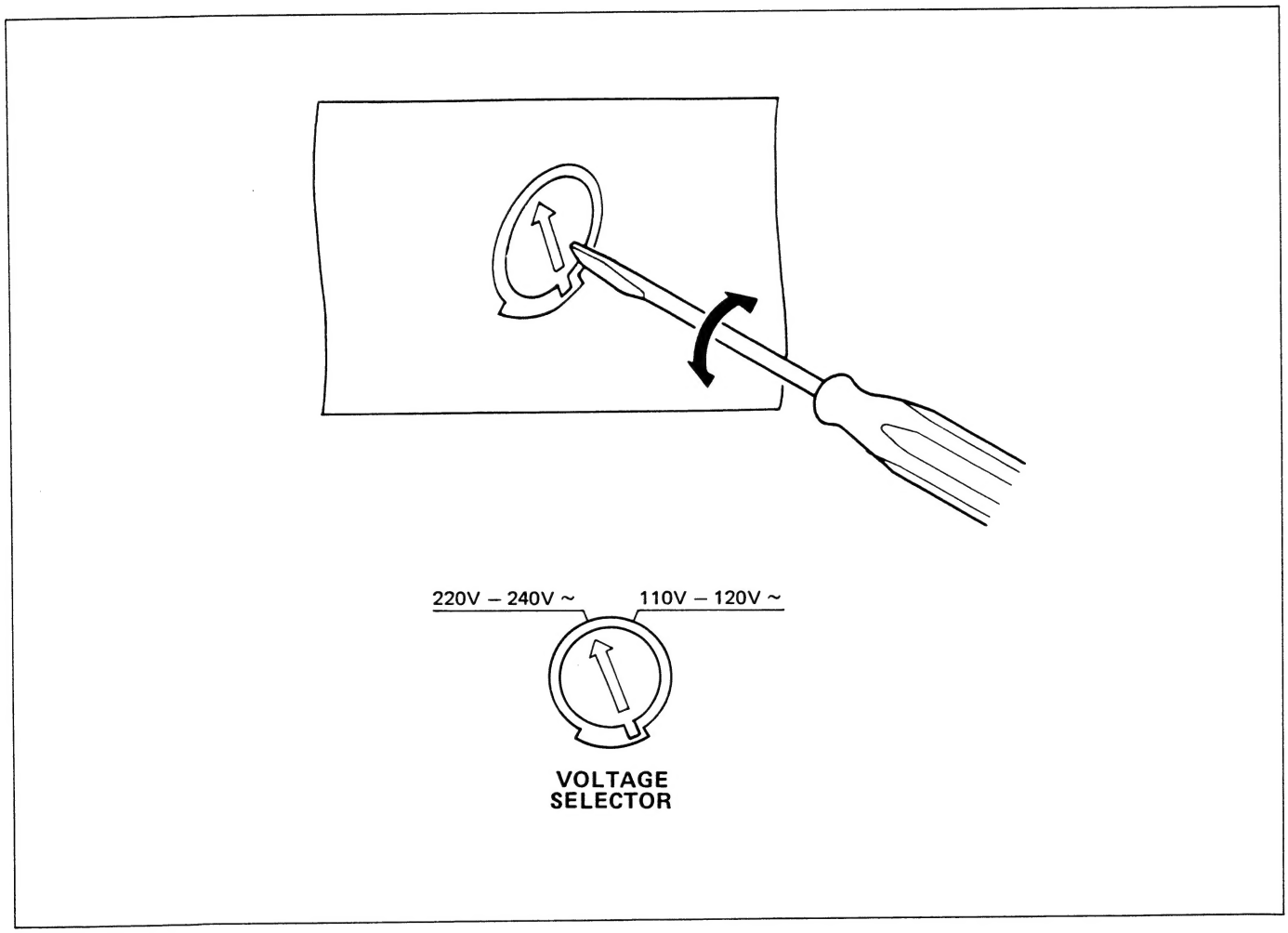
3. VOLTAGE CONVERSION

• EUROPEAN MODEL ONLY

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

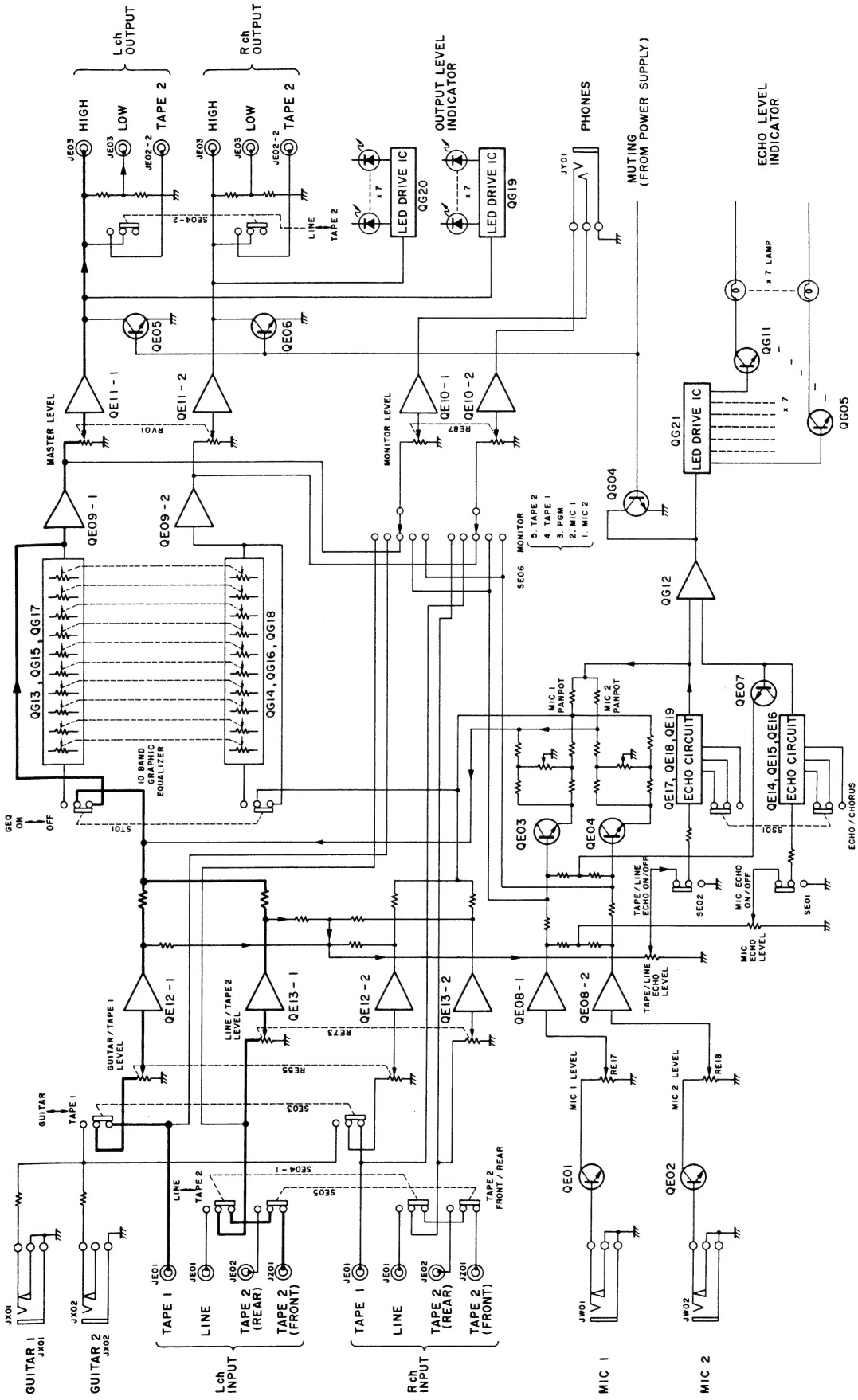
CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.

Voltage Conversion Chart



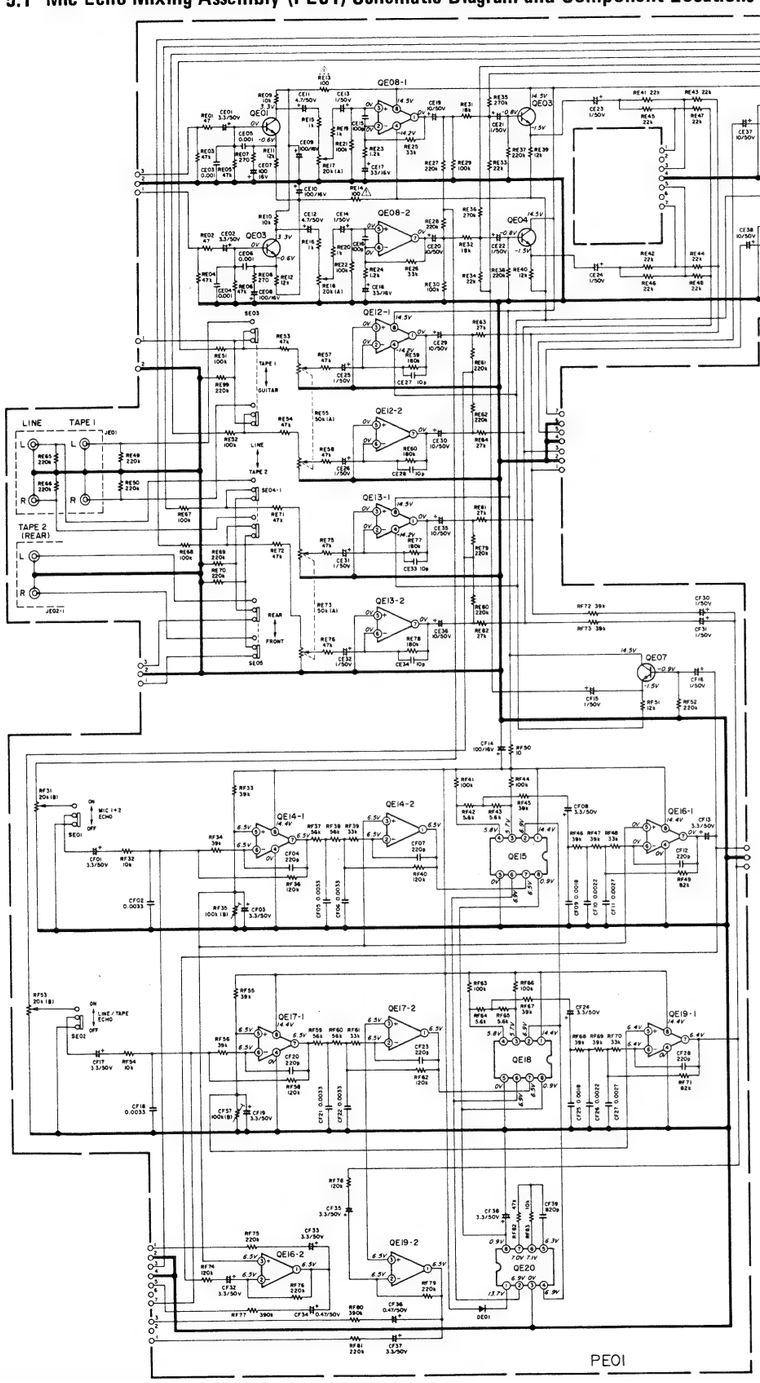
Note on safety: Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

4. BLOCK DIAGRAM

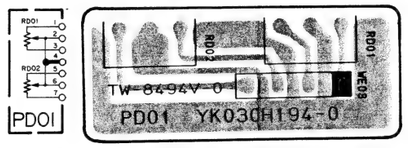


5. DIAGRAM AND COMPONENT LOCATIONS

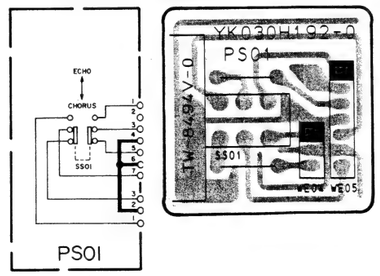
5.1 Mic Echo Mixing Assembly (PE01) Schematic Diagram and Component Locations



5.2 Pan Pot Volume Assembly (PD01) Schematic Diagram and Component Locations

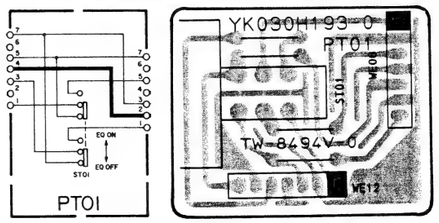


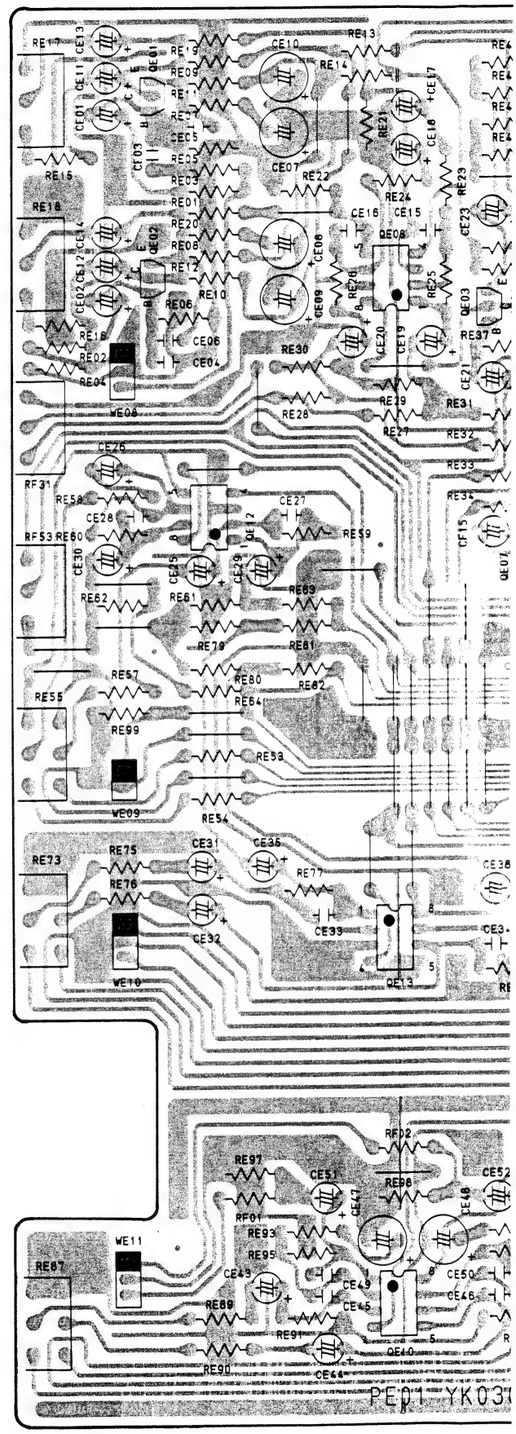
5.3 Chorus/Echo Switch Assembly (PS01) Schematic Diagram and Component Locations

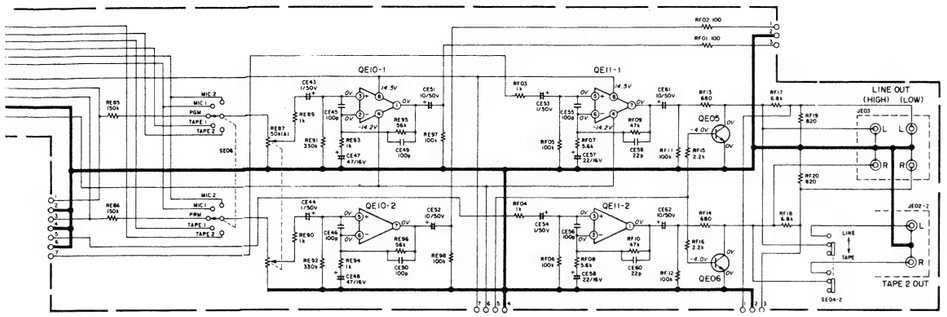


5.4 Power Switch Assembly (PK01) Schematic Diagram and Component Locations

5.5 Equalizer Switch Assembly (PT01) Schematic Diagram and Component Locations







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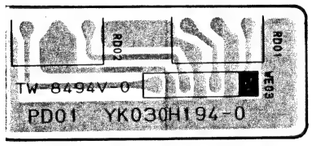
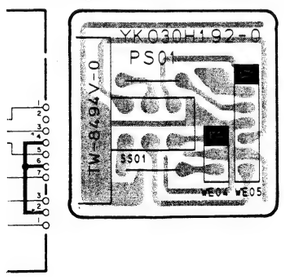
natic Diagram and Component Locations

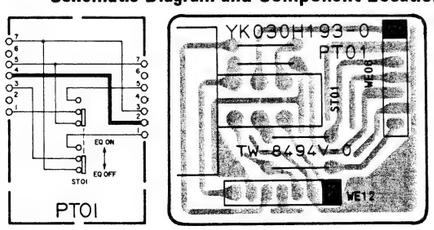


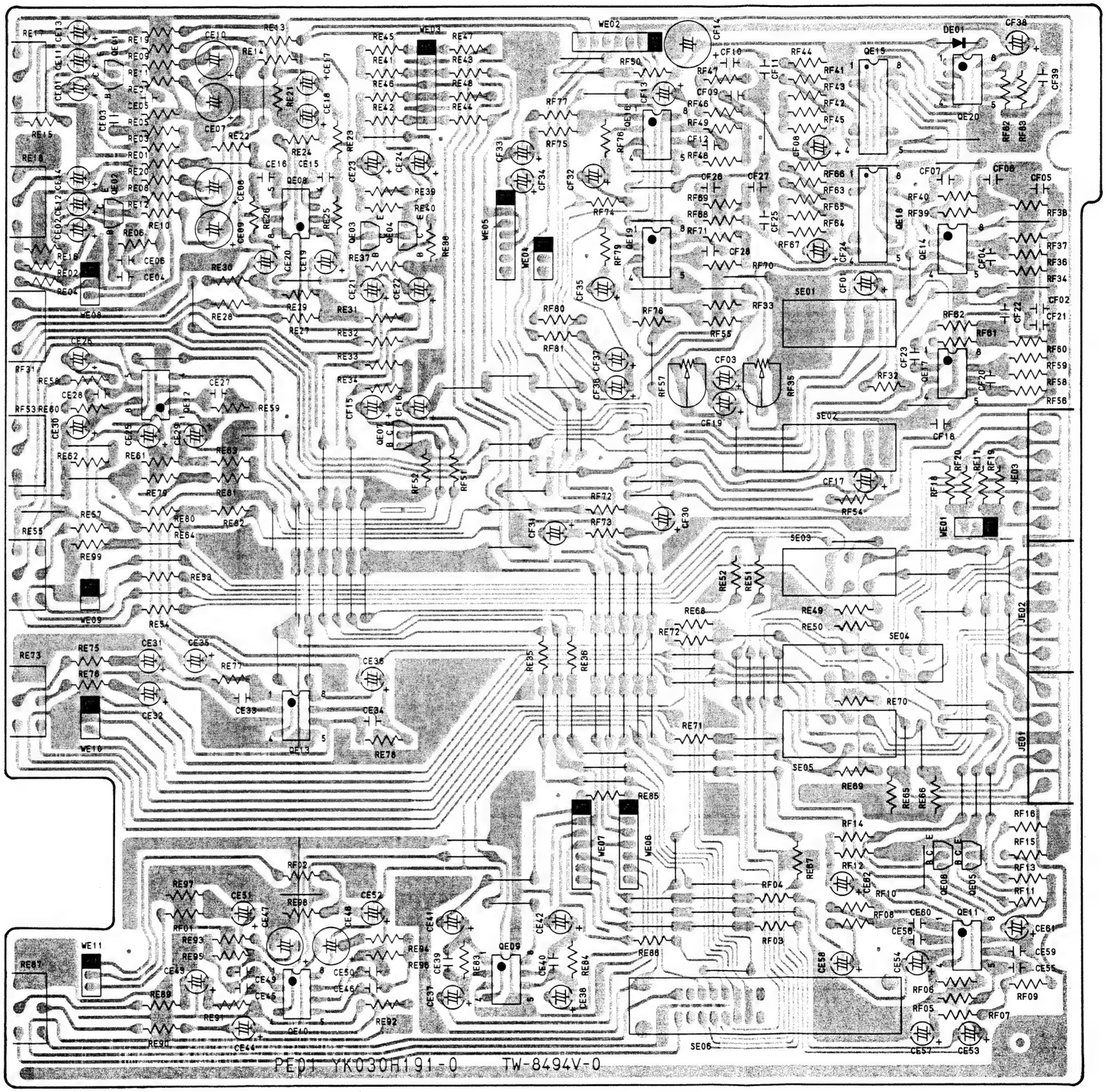
5.4 Power Switch Assembly (PK01)
Schematic Diagram and Component Locations

ıs/Echo Switch Assembly (PS01)
natic Diagram and Component Locations

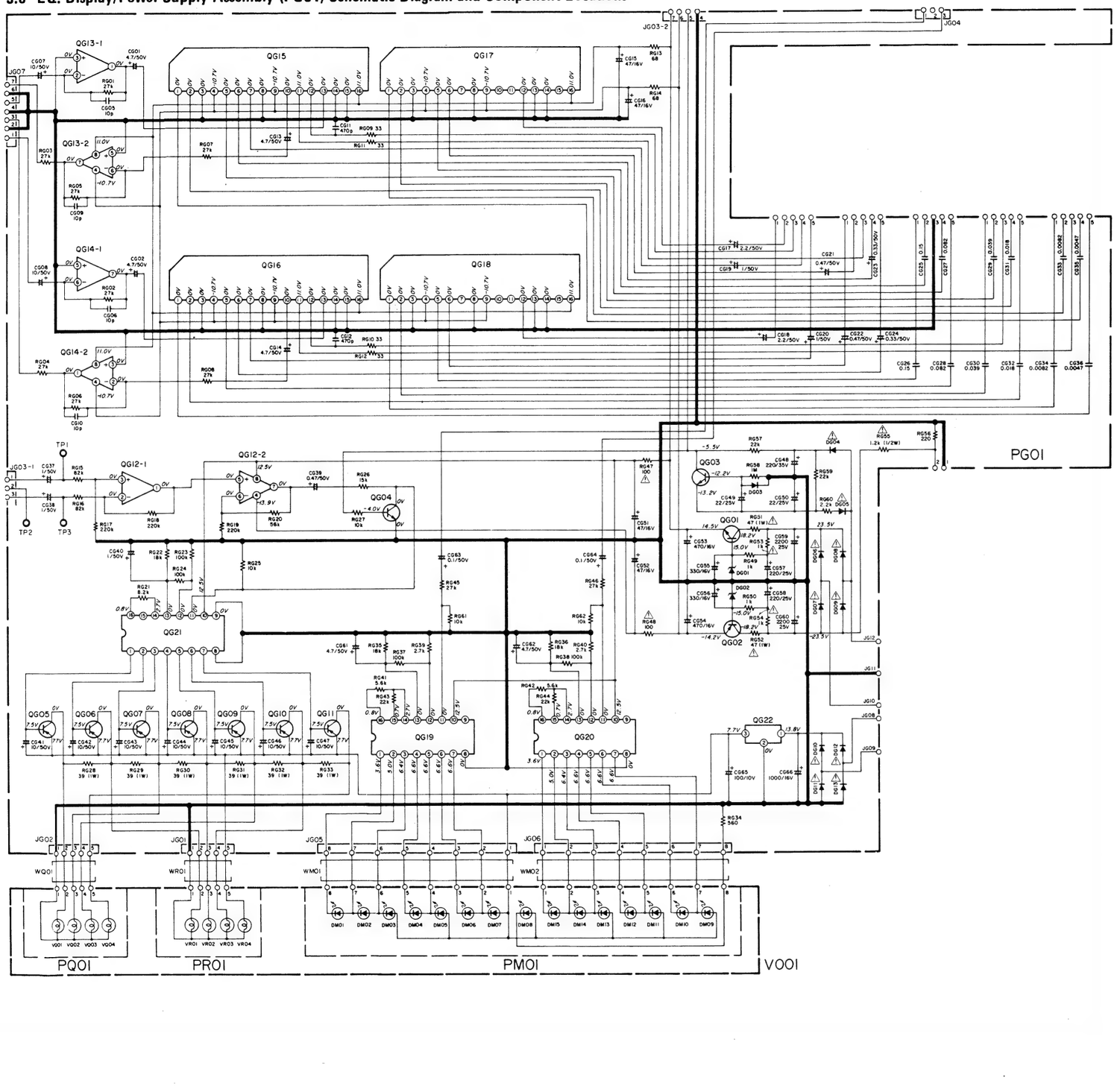


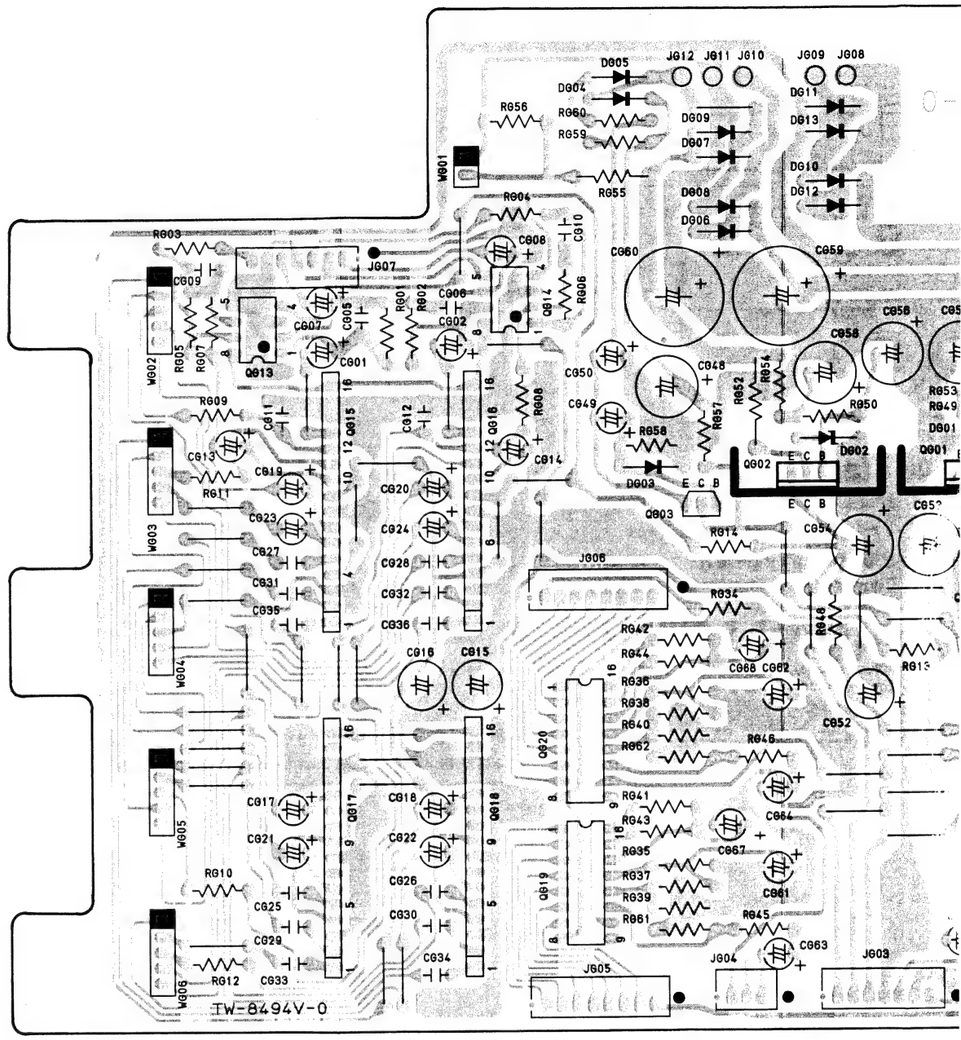
5.5 Equalizer Switch Assembly (PT01)
Schematic Diagram and Component Locations



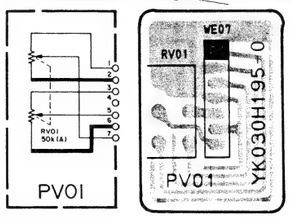


5.6 EQ. Display/Power Supply Assembly (PG01) Schematic Diagram and Component Locations

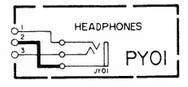


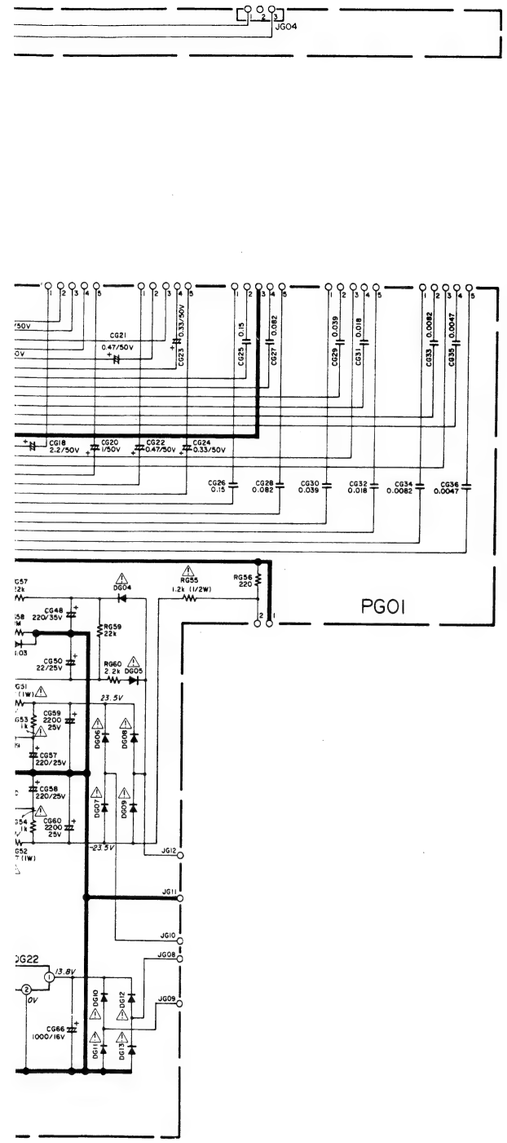


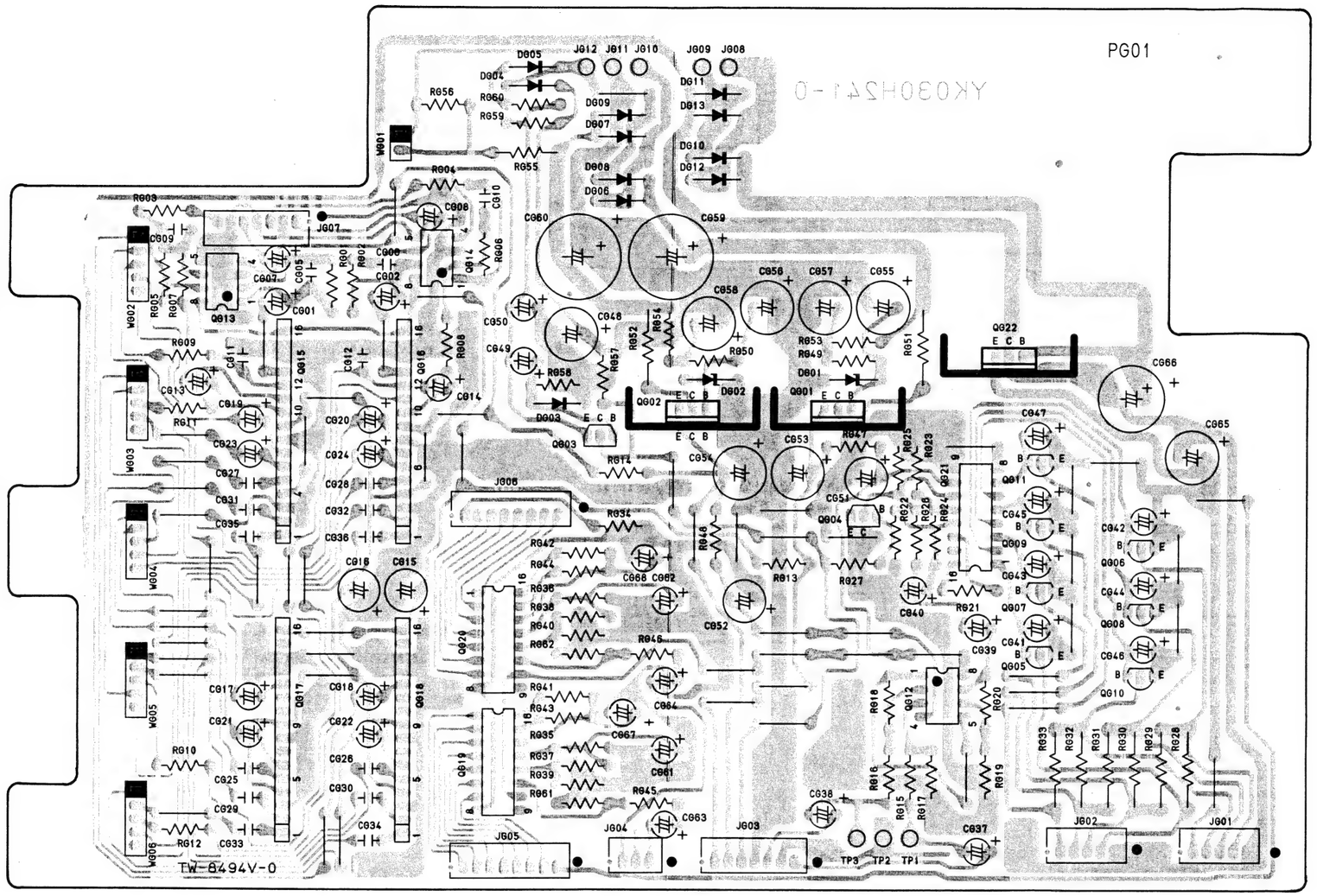
5.7 Master Volume Assembly (PV01) Schematic Diagram and Component Locations



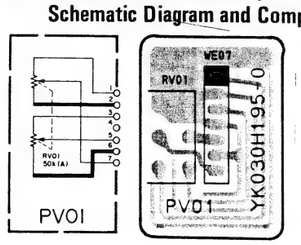
5.8 Headphone Jack Assembly (P Schematic Diagram and Comp



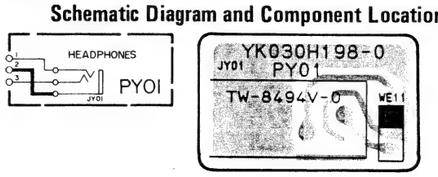




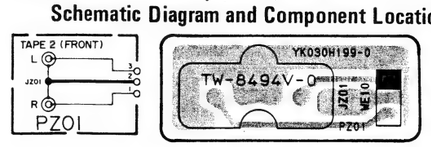
5.7 Master Volume Assembly (PV01)
Schematic Diagram and Component Locations



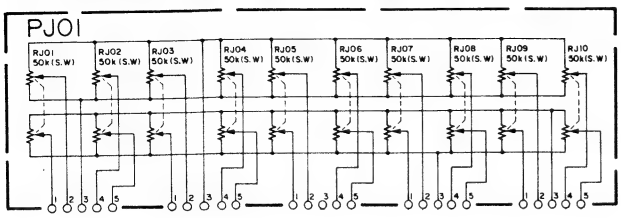
5.8 Headphone Jack Assembly (PY01)
Schematic Diagram and Component Locations

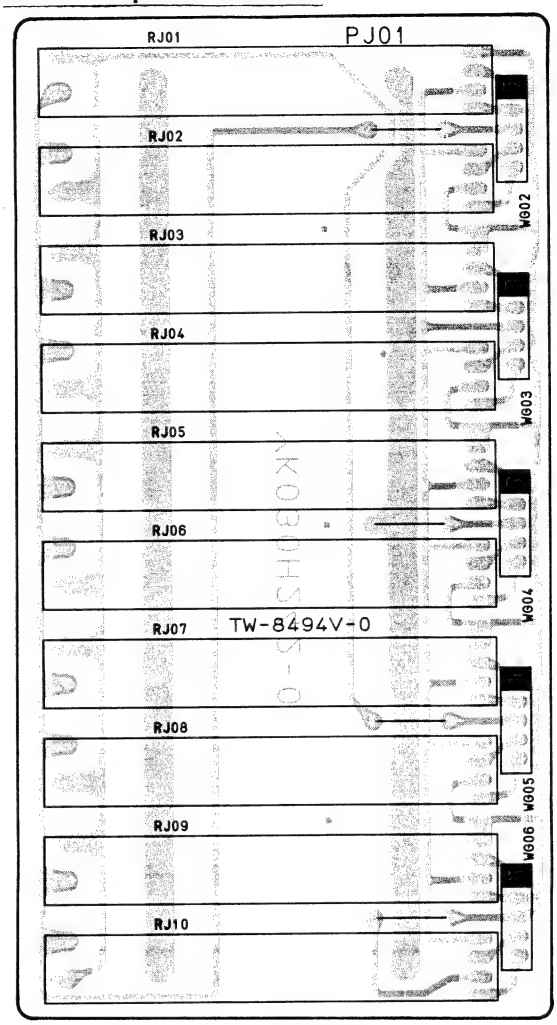


5.9 Pin Jack Assembly (PZ01)
Schematic Diagram and Component Locations

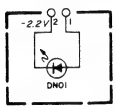


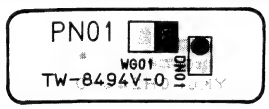
5.10 Equalizer Volume Assembly (PJ01) Schematic Diagram and Component Locations



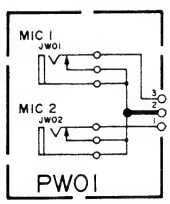


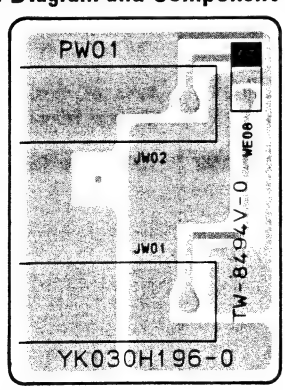
5.11 LED Assembly (PN01) Schematic Diagram and Component Locations



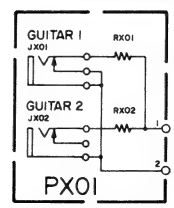


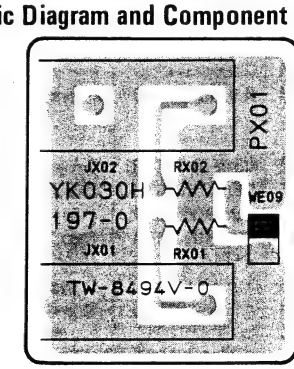
5.12 Mic Jack Assembly (PW01) Schematic Diagram and Component Locations



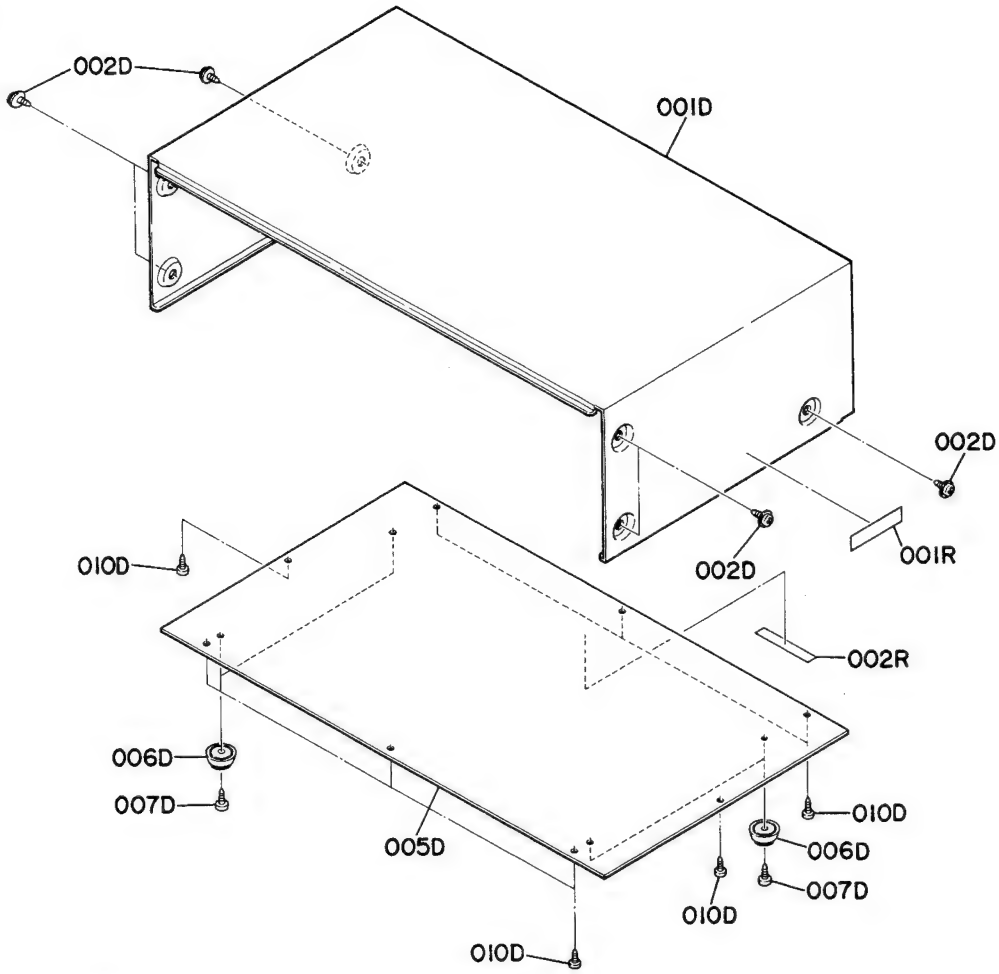


5.13 Guitar Jack Assembly (PX01) Schematic Diagram and Component Locations





● [C02-99] Lid

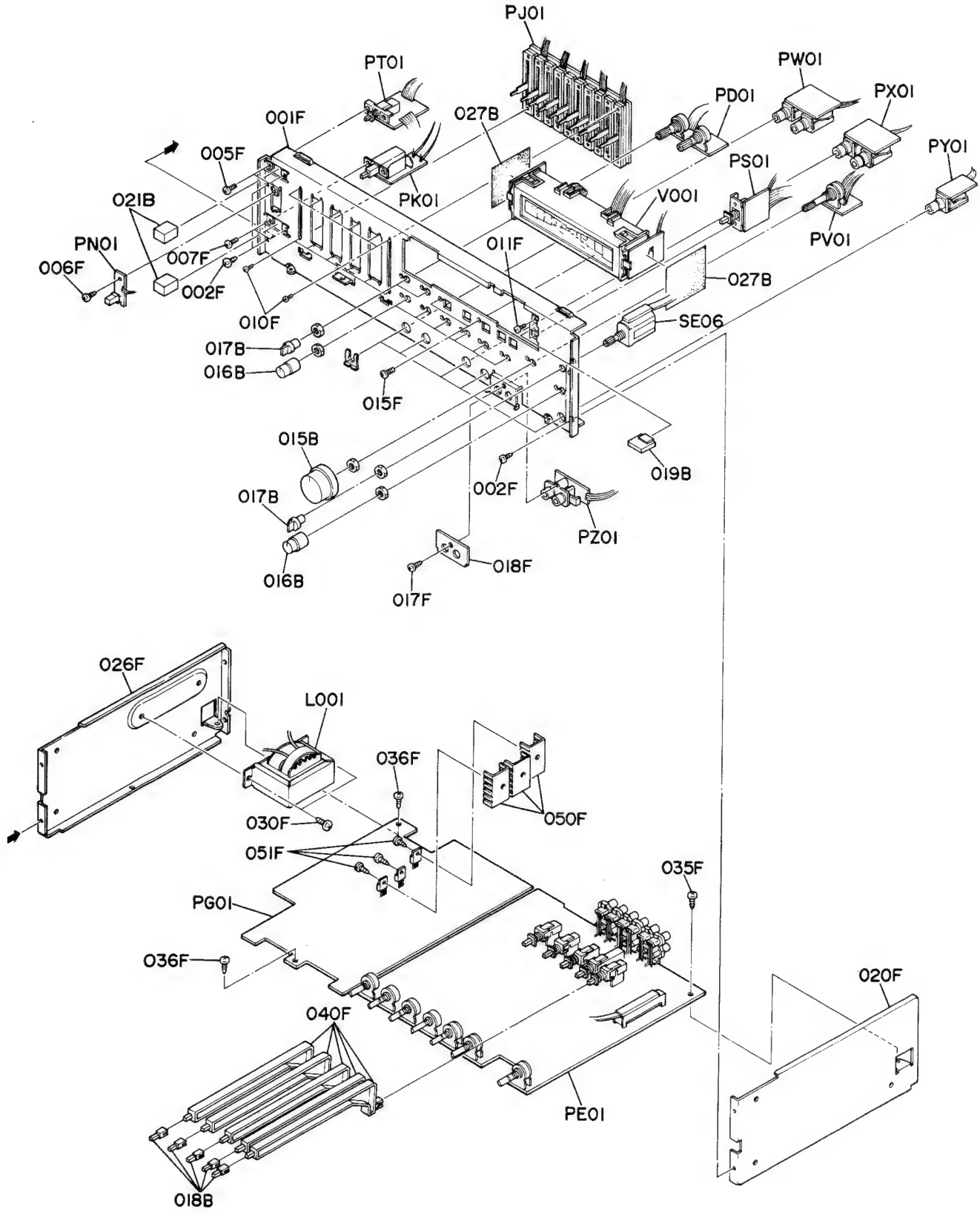


● (F): for Japan
● (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
001D	1	1	030H257110	Lid, Top Cover (Black)
001D		1	030H257010	Lid, Top Cover (Gold)
002D	6	6	51260408U0	B.T. Screw B4 x 8
005D	1	1	030H257020	Lid, Bottom Cover
006D	4	4	416H057010	Leg
007D	4	4	51280408B0	B.H. Tapped Screw B4 x 8
010D	8	8	51280308B0	B.H. Tapped Screw B3 x 8

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
001R		1	2911861140	Label (Gold)
002R		1	2911861110	Label (Black)

● [P01-99] Front Chassis and General Parts

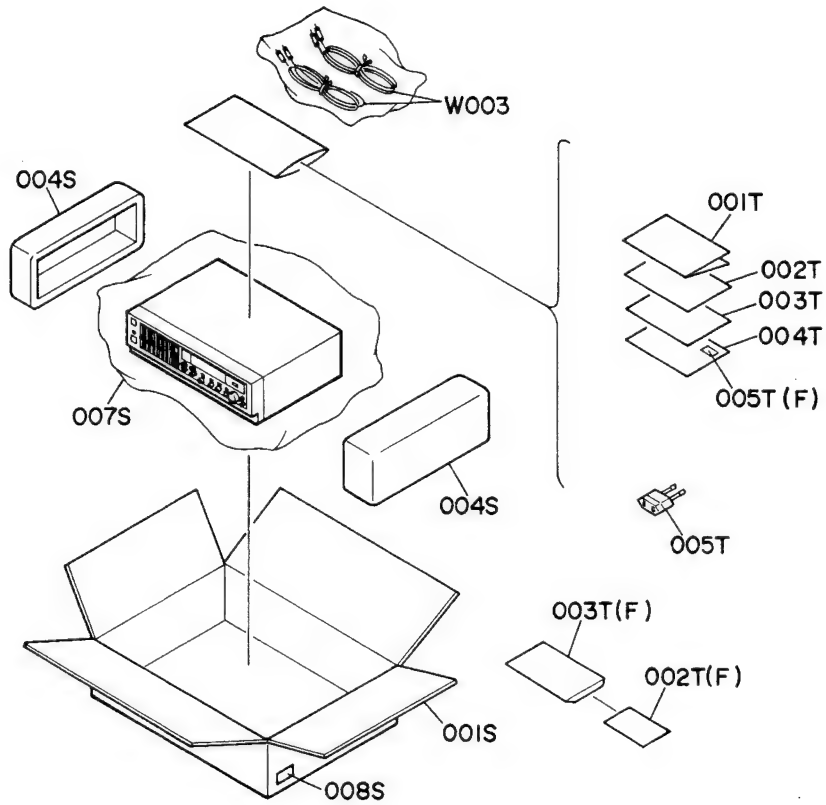


• (F): for Japan
• (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
015B	1	1	030H154140	Knob, Master Level (Black)
015B		1	030H154040	Knob, Master Level (Gold)
016B	7	7	030H154130	Knob, Level (Black)
016B		7	030H154030	Knob, Level (Gold)
017B	3	3	102T154130	Knob, Pan Pot (Black)
017B		3	102T154030	Knob, Pan Pot (Gold)
018B	5	5	030H154120	Knob, Mode (Black)
018B		5	030H154020	Knob, Mode (Gold)
019B	1	1	226H154230	Knob, Echo (Black)
019B		1	226H154130	Knob, Echo (Gold)
021B	2	2	415H154310	Knob, Power/EQ (Black)
021B		2	415H154210	Knob, Power/EQ (Gold)
027B	1	1	030H303020	Mask
001F	1	1	030H160010	Bracket, Front Chassis
002F	4	4	51280308B0	B.H. Tapped Screw B3 x 8
005F	2	2	51100308A9	B.H.M. Screw B3 x 8
006F	1	1	51280308B0	B.H. Tapped Screw B3 x 8
007F	2	2	51100308A9	B.H.M. Screw B3 x 8
010F	10	10	51100203S0	B.H.M. Screw B2 x 3
011F	2	2	51100308A9	B.H.M. Screw B3 x 8
015F	2	2	51280308B0	B.H. Tapped Screw B3 x 8
017F	1	1	51280308B0	B.H. Tapped Screw B3 x 8
018F	1	1	030H107010	Sheet

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
020F	1	1	030H126010	Stay, R
026F	1	1	030H126020	Stay, L
030F	2	2	51280408B0	B.H. Tapped Screw B4 x 8
035F	1	1	51280308B0	B.H. Tapped Screw B3 x 8
036F	2	2	51280308B0	B.H. Tapped Screw B3 x 8
040F	5	5	030H125010	Joint, Push Switch
050F	3	3	202H267030	Heatsink
051F	3	3	51280308B0	B.H. Tapped Screw B3 x 8
⚠L001	1		TS15709020	Power Transformer
⚠L001		1	TS15709030	Power Transformer
V001	1	1	ZK030H0010	Display Unit, LED/Meter

● [H01-99] Packing Materials



● (F): for Japan
● (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
001S	1		030H801010	Packing Case
001S		1	030H801020	Packing Case
004S	2	2	030H809010	Cushion
007S	1	1	9090808030	Polyethylene Sheet
008S	4		9526019040	Serial No. Card
008S		2	9526019050	Serial No. Card

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
001T	1		030H851110	User Manual
001T		1	030H851310	User Manual
002T	1		9631000130	Warranty Card
002T		1	030H851320	User Manual, Spec
003T	1		128T854010	Warranty Card
003T		1	416H854010	Warranty Card
004T	1		9611000050	User's Card
004T		1	3435851210	User Manual
005T	1		9540000010	License
005T		1	YJ04000240	Jack, AC Socket
W003	2	2	ZD01000170	Connective Cord

7. ELECTRICAL PARTS LIST

• (F): for Japan
• (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
				PD01-PAN POT VOLUME CIRCUIT BOARD
PD01	1	1	YK030H1940	P.W. Board, Pan Pot Volume
		1	ZZ030H1940	P.W. Board Assembly
RD01	1	1	RK02030640	Resistor 20KΩ(B), Variable
RD02	1	1	RK02030640	Resistor 20KΩ(B), Variable
				PE01-MIC, ECHO & MIXING CIRCUIT BOARD
PE01	1	1	YK030H1910	P.W. Board, Mic Echo & Mixing
		1	ZZ030H1910	P.W. Board Assembly
				PE01-CAPACITORS
CE01	1	1	EA33505030	Elect 3.3μF 50V
CE02	1	1	EA33505030	Elect 3.3μF 50V
CE03	1	1	DK16102300	Ceramic 1000pF ±10%
CE04	1	1	DK16102300	Ceramic 1000pF ±10%
CE05	1	1	DK16102300	Ceramic 1000pF ±10%
CE06	1	1	DK16102300	Ceramic 1000pF ±10%
CE07	1	1	EA10701630	Elect 100μF 16V
CE08	1	1	EA10701630	Elect 100μF 16V
CE09	1	1	EA10701630	Elect 100μF 16V
CE10	1	1	EA10701630	Elect 100μF 16V
CE11	1	1	EA47505030	Elect 4.7μF 50V
CE12	1	1	EA47505030	Elect 4.7μF 50V
CE13	1	1	EA10505030	Elect 1μF 50V
CE14	1	1	EA10505030	Elect 1μF 50V
CE15	1	1	DD15101370	Ceramic 100pF ±5%
CE16	1	1	DD15101370	Ceramic 100pF ±5%
CE17	1	1	EA33601630	Elect 33μF 16V
CE18	1	1	EA33601630	Elect 33μF 16V
CE19	1	1	EA10605030	Elect 10μF 50V
CE20	1	1	EA10605030	Elect 10μF 50V
CE21	1	1	EA10505030	Elect 1μF 50V
CE22	1	1	EA10505030	Elect 1μF 50V
CE23	1	1	EA10505030	Elect 1μF 50V
CE24	1	1	EA10505030	Elect 1μF 50V
CE25	1	1	EA10505030	Elect 1μF 50V
CE26	1	1	EA10505030	Elect 1μF 50V
CE27	1	1	DD11100370	Ceramic 10pF 50V
CE28	1	1	DD11100370	Ceramic 10pF 50V
CE29	1	1	EA10605030	Elect 10μF 50V
CE30	1	1	EA10605030	Elect 10μF 50V
CE31	1	1	EA10505030	Elect 1μF 50V
CE32	1	1	EA10505030	Elect 1μF 50V
CE33	1	1	DD11100370	Ceramic 10pF 50V
CE34	1	1	DD11100370	Ceramic 10pF 50V
CE35	1	1	EA10605030	Elect 10μF 50V
CE36	1	1	EA10605030	Elect 10μF 50V
CE37	1	1	EA10605030	Elect 10μF 50V
CE38	1	1	EA10605030	Elect 10μF 50V
CE39	1	1	DD11100370	Ceramic 10pF 50V
CE40	1	1	DD11100370	Ceramic 10pF 50V
CE41	1	1	EA10605030	Elect 10μF 50V
CE42	1	1	EA10605030	Elect 10μF 50V
CE43	1	1	EA10505030	Elect 1μF 50V
CE44	1	1	EA10505030	Elect 1μF 50V
CE45	1	1	DD15101370	Ceramic 100pF ±5%
CE46	1	1	DD15101370	Ceramic 100pF ±5%
CE47	1	1	EA47601630	Elect 47μF 16V
CE48	1	1	EA47601630	Elect 47μF 16V
CE49	1	1	DD15101370	Ceramic 100pF 50V
CE50	1	1	DD15101370	Ceramic 100pF 50V
CE51	1	1	EA10605030	Elect 10μF 50V
CE52	1	1	EA10605030	Elect 10μF 50V
CE53	1	1	EA10505030	Elect 1μF 50V
CE54	1	1	EA10505030	Elect 1μF 50V
CE55	1	1	DD15101370	Ceramic 100pF 50V
CE56	1	1	DD15101370	Ceramic 100pF 50V
CE57	1	1	EA22601630	Elect 22μF 16V
CE58	1	1	EA22601630	Elect 22μF 16V
CE59	1	1	DD15220370	Ceramic 22pF ±5%
CE60	1	1	DD15220370	Ceramic 22pF ±5%
CE61	1	1	EA10605030	Elect 10μF 50V
CE62	1	1	EA10605030	Elect 10μF 50V
CF01	1	1	EA33505030	Elect 3.3μF 50V
CF02	1	1	DF15332310	Film 3300pF ±5%
CF03	1	1	EA33505030	Elect 3.3μF 50V
CF04	1	1	DD15221370	Ceramic 220pF ±5%
CF05	1	1	DF15332310	Film 3300pF ±5%
CF06	1	1	DF15332310	Film 3300pF ±5%
CF07	1	1	DD15221370	Ceramic 220pF ±5%
CF08	1	1	EA33505030	Elect 3.3μF 50V
CF09	1	1	DF15182310	Film 1800pF ±5%
CF10	1	1	DF15222310	Film 2200pF ±5%
CF11	1	1	DF15272310	Film 2700pF 50V
CF12	1	1	DD15221370	Ceramic 220pF ±5%
CF13	1	1	EA33505030	Elect 3.3μF 50V
CF15	1	1	EA10505030	Elect 1μF 50V
CF16	1	1	EA10505030	Elect 1μF 50V
CF17	1	1	EA33505030	Elect 3.3μF 50V
CF18	1	1	DF15332310	Film 3300pF ±5%
CF19	1	1	EA33505030	Elect 3.3μF 50V
CF20	1	1	DD15221370	Ceramic 220pF ±5%
CF21	1	1	DF15332310	Film 3300pF ±5%
CF22	1	1	DF15332310	Film 3300pF ±5%
CF23	1	1	DD15221370	Ceramic 220pF ±5%
CF24	1	1	EA33505030	Elect 3.3μF 50V
CF25	1	1	DF15182310	Film 1800pF ±5%
CF26	1	1	DF15222310	Film 2200pF ±5%
CF27	1	1	DF15272310	Film 2700pF ±5%
CF28	1	1	DD15221370	Ceramic 220pF ±5%
CF30	1	1	EA10505030	Elect 1μF 50V
CF31	1	1	EA10505030	Elect 1μF 50V
CF32	1	1	EA33505030	Elect 3.3μF 50V
CF33	1	1	EA33505030	Elect 3.3μF 50V
CF34	1	1	EA47405030	Elect 0.47μF 50V
CF35	1	1	EA33505030	Elect 3.3μF 50V
CF37	1	1	EA47405030	Elect 0.47μF 50V
CF37	1	1	EA33505030	Elect 3.3μF 50V
CF38	1	1	EA33505030	Elect 3.3μF 50V
CF39	1	1	DK16821300	Ceramic 820pF ±10%

• (F): for Japan
• (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
				PE01-RESISTORS
				(All Resistors are ±5% & ¼W)
RE01	1	1	GD05470140	47Ω
RE02	1	1	GD05470140	47Ω
RE03	1	1	GD05473140	47KΩ
RE04	1	1	GD05473140	47KΩ
RE05	1	1	GD05473140	47KΩ
RE06	1	1	GD05473140	47KΩ
RE07	1	1	GD05271140	270Ω
RE08	1	1	GD05271140	270Ω
RE09	1	1	GD05103140	10KΩ
RE10	1	1	GD05103140	10KΩ
RE11	1	1	GD05123140	12KΩ
RE12	1	1	GD05123140	12KΩ
RE13	1	1	GG05101140	100Ω
RE14	1	1	GG05101140	100Ω
RE15	1	1	GD05102140	1KΩ
RE16	1	1	GD05102140	1KΩ
RE17	1	1	RK02030630	20KΩ(A), Variable
RE18	1	1	RK02030630	20KΩ(A), Variable
RE19	1	1	GD05102140	1KΩ
RE20	1	1	GD05102140	1KΩ
RE21	1	1	GD05104140	100KΩ
RE22	1	1	GD05104140	100KΩ
RE23	1	1	GD05122140	1.2KΩ
RE24	1	1	GD05122140	1.2KΩ
RE25	1	1	GD05333140	33KΩ
RE26	1	1	GD05333140	33KΩ
RE27	1	1	GD05224140	220KΩ
RE28	1	1	GD05224140	220KΩ
RE29	1	1	GD05104140	100KΩ
RE30	1	1	GD05104140	100KΩ
RE31	1	1	GD05183140	18KΩ
RE32	1	1	GD05183140	18KΩ
RE33	1	1	GD05223140	22KΩ
RE34	1	1	GD05223140	22KΩ
RE35	1	1	GD05274140	270KΩ
RE36	1	1	GD05274140	270KΩ
RE37	1	1	GD05224140	220KΩ
RE38	1	1	GD05224140	220KΩ
RE39	1	1	GD05123140	12KΩ
RE40	1	1	GD05123140	12KΩ
RE41	1	1	GD05223140	22KΩ
RE42	1	1	GD05223140	22KΩ
RE43	1	1	GD05223140	22KΩ
RE44	1	1	GD05223140	22KΩ
RE45	1	1	GD05223140	22KΩ
RE46	1	1	GD05223140	22KΩ
RE47	1	1	GD05223140	22KΩ
RE48	1	1	GD05223140	22KΩ
RE49	1	1	GD05224140	220KΩ
RE50	1	1	GD05224140	220KΩ
RE51	1	1	GD05104140	100KΩ
RE52	1	1	GD05104140	100KΩ
RE53	1	1	GD05473140	47KΩ
RE54	1	1	GD05473140	47KΩ
RE55	1	1	RM05031130	50KΩ(A), Variable
RE57	1	1	GD05473140	47KΩ
RE58	1	1	GD05473140	47KΩ
RE59	1	1	GD05184140	180KΩ
RE60	1	1	GD05184140	180KΩ
RE61	1	1	GD05224140	220KΩ

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
RE62	1	1	GD05224140	220KΩ
RE63	1	1	GD05273140	27KΩ
RE64	1	1	GD05273140	27KΩ
RE65	1	1	GD05224140	220KΩ
RE66	1	1	GD05224140	220KΩ
RE67	1	1	GD05104140	100KΩ
RE68	1	1	GD05104140	100KΩ
RE69	1	1	GD05224140	220KΩ
RE70	1	1	GD05224140	220KΩ
RE71	1	1	GD05473140	47KΩ
RE72	1	1	GD05473140	47KΩ
RE73	1	1	RM05031130	50KΩ(A), Variable
RE75	1	1	GD05473140	47KΩ
RE76	1	1	GD05473140	47KΩ
RE77	1	1	GD05184140	180KΩ
RE78	1	1	GD05184140	180KΩ
RE79	1	1	GD05224140	220KΩ
RE80	1	1	GD05224140	220KΩ
RE81	1	1	GD05273140	27KΩ
RE82	1	1	GD05273140	27KΩ
RE83	1	1	GD05273140	27KΩ
RE84	1	1	GD05273140	27KΩ
RE85	1	1	GD05154140	150KΩ
RE86	1	1	GD05154140	150KΩ
RE87	1	1	RM05031130	50KΩ(A), Variable
RE89	1	1	GD05102140	1KΩ
RE90	1	1	GD05102140	1KΩ
RE91	1	1	GD05334140	330KΩ
RE92	1	1	GD05334140	330KΩ
RE93	1	1	GD05102140	1KΩ
RE94	1	1	GD05102140	1KΩ
RE95	1	1	GD05563140	56KΩ
RE96	1	1	GD05563140	56KΩ
RE97	1	1	GD05104140	100KΩ
RE98	1	1	GD05104140	100KΩ
RE99	1	1	GD05224140	220KΩ
RF01	1	1	GD05101140	100Ω
RF02	1	1	GD05101140	100Ω
RF03	1	1	GD05102140	1KΩ
RF04	1	1	GD05102140	1KΩ
RF05	1	1	GD05104140	100KΩ
RF06	1	1	GD05104140	100KΩ
RF07	1	1	GD05562140	5.6KΩ
RF08	1	1	GD05562140	5.6KΩ
RF09	1	1	GD05473140	47KΩ
RF10	1	1	GD05473140	47KΩ
RF11	1	1	GD05104140	100KΩ
RF12	1	1	GD05104140	100KΩ
RF13	1	1	GD05681140	680Ω
RF14	1	1	GD05681140	680Ω
RF15	1	1	GD05222140	2.2KΩ
RF16	1	1	GD05222140	2.2KΩ
RF17	1	1	GD05682140	6.8KΩ
RF18	1	1	GD05682140	6.8KΩ
RF19	1	1	GD05821140	820Ω
RF20	1	1	GD05821140	820Ω

• (F): for Japan
• (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
RF31	1	1	RK02030620	20KΩ(B), Variable
RF32	1	1	GD05103140	10KΩ
RF33	1	1	GD05393140	39KΩ
RF34	1	1	GD05393140	39KΩ
RF35	1	1	RA01040800	100KΩ(B), Trimming
RF36	1	1	GD05124140	120KΩ
RF37	1	1	GD05563140	56KΩ
RF38	1	1	GD05563140	56KΩ
RF39	1	1	GD05333140	33KΩ
RF40	1	1	GD05124140	120KΩ
RF41	1	1	GD05104140	100KΩ
RF42	1	1	GD05562140	5.6KΩ
RF43	1	1	GD05562140	5.6KΩ
RF44	1	1	GD05104140	100KΩ
RF45	1	1	GD05393140	39KΩ
RF46	1	1	GD05393140	39KΩ
RF47	1	1	GD05393140	39KΩ
RF48	1	1	GD05333140	33KΩ
RF49	1	1	GD05823140	82KΩ
RF50	1	1	GG05100140	10Ω
RF51	1	1	GD05123140	12KΩ
RF52	1	1	GD05224140	220KΩ
RF53	1	1	RK02030620	20KΩ(B), Variable
RF54	1	1	GD05103140	10KΩ
RF55	1	1	GD05393140	39KΩ
RF56	1	1	GD05393140	39KΩ
RF57	1	1	RA01040800	100KΩ(B), Trimming
RF58	1	1	GD05124140	120KΩ
RF59	1	1	GD05563140	56KΩ
RF60	1	1	GD05563140	56KΩ
RF61	1	1	GD05333140	33KΩ
RF62	1	1	GD05124140	120KΩ
RF63	1	1	GD05104140	100KΩ
RF64	1	1	GD05562140	5.6KΩ
RF65	1	1	GD05562140	5.6KΩ
RF66	1	1	GD05104140	100KΩ
RF67	1	1	GD05393140	39KΩ
RF68	1	1	GD05393140	39KΩ
RF69	1	1	GD05393140	39KΩ
RF70	1	1	GD05333140	33KΩ
RF71	1	1	GD05823140	82KΩ
RF72	1	1	GD05393140	39KΩ
RF73	1	1	GD05393140	39KΩ
RF74	1	1	GD05124140	120KΩ
RF75	1	1	GD05224140	220KΩ
RF76	1	1	GD05224140	220KΩ
RF77	1	1	GD05394140	390KΩ
RF78	1	1	GD05124140	120KΩ
RF79	1	1	GD05224140	220KΩ
RF80	1	1	GD05394140	390KΩ
RF81	1	1	GD05224140	220KΩ
RF82	1	1	GD05473140	47KΩ
RF83	1	1	GD05103140	10KΩ

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
				PE01-SEMICONDUCTORS
DE01	1	1	HD20001000	Diode 1S1555
QE01	1	1	HT327841F0	Transistor 2SC2784(F)
QE02	1	1	HT327841F0	Transistor 2SC2784(F)
QE03	1	1	HT327851F0	Transistor 2SC2785(F)
QE04	1	1	HT327851F0	Transistor 2SC2785(F)
QE05	1	1	HT327851F0	Transistor 2SC2785(F)
QE06	1	1	HT327851F0	Transistor 2SC2785(F)
QE07	1	1	HT327851F0	Transistor 2SC2785(F)
QE08	1	1	HC10003090	IC NJM4558D
QE09	1	1	HC10003090	IC NJM4558D
QE10	1	1	HC10016090	IC NJM4556D
QE11	1	1	HC10003090	IC NJM4558D
QE12	1	1	HC10003090	IC NJM4558D
QE13	1	1	HC10003090	IC NJM4558D
QE14	1	1	HC10003090	IC NJM4558D
QE15	1	1	HC10049020	IC MN3008
QE16	1	1	HC10003090	IC NJM4558D
QE17	1	1	HC10003090	IC NJM4558D
QE18	1	1	HC10049020	IC MN3008
QE19	1	1	HC10003090	IC NJM4558D
QE20	1	1	HC10044020	IC MN3101
				PE01-MISCELLANEOUS
JE01	1	1	YT02040470	Terminal
JE02	1	1	YT02040470	Terminal
JE03	1	1	YT02040470	Terminal
SE01	1	1	SP02011100	Push Switch, Mic Echo
SE02	1	1	SP02011100	Push Switch, Line Echo
SE03	1	1	SP02011100	Push Switch, Tape1/Guitar
SE04	1	1	SP04010460	Push Switch, Tape2/Line
SE05	1	1	SP02011100	Push Switch, Tape
SE06	1	1	SS02050010	Slide Switch, Phones Monitor
SE07	1	1	SB11080010	Switch Band, FLX
WE01	1	1	YU03200260	Jumper Lead, (3P)
WE02	1	1	YU07060260	Jumper Lead, (7P)
WE03	1	1	YU07180260	Jumper Lead, (7P)
WE04	1	1	YU03300260	Jumper Lead, (3P)
WE05	1	1	YU07300260	Jumper Lead, (7P)
WE06	1	1	YU07500260	Jumper Lead, (7P)
WE07	1	1	YU07140260	Jumper Lead, (7P)
WE08	1	1	YU03180260	Jumper Lead, (3P)
WE09	1	1	YU02160260	Jumper Lead, (2P)
WE10	1	1	YU03120260	Jumper Lead, (3P)
WE11	1	1	YU03120260	Jumper Lead, (3P)
WE12	1	1	YU07100260	Jumper Lead, (7P)

• (F): for Japan
• (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION		
				PG01-EQ, DISPLAY & POWER SUPPLY CIRCUIT BOARD		
PG01	1	1	YK030H2410	P.W. Board, EQ, Display & Power Supply		
		1	ZZ030H2410	P.W. Board Assembly		
				PG01-CAPACITORS		
CG01	1	1	EA47505030	Elect	4.7μF	50V
CG02	1	1	EA47505030	Elect	4.7μF	50V
CG05	1	1	DD11100370	Ceramic	10pF	50V
CG06	1	1	DD11100370	Ceramic	10pF	50V
CG07	1	1	EA10605030	Elect	10μF	50V
CG08	1	1	EA10605030	Elect	10μF	50V
CG09	1	1	DD11100370	Ceramic	10pF ±0.5pF	
CG10	1	1	DD11100370	Ceramic	10pF ±0.5pF	
CG11	1	1	DD15471370	Ceramic	470pF ±5%	
CG12	1	1	DD15471370	Ceramic	470pF ±5%	
CG13	1	1	EA47505030	Elect	4.7μF	50V
CG14	1	1	EA47505030	Elect	4.7μF	50V
CG15	1	1	EA47601630	Elect	47μF	16V
CG16	1	1	EA47601630	Elect	47μF	16V
CG17	1	1	EA22505030	Elect	2.2μF	50V
CG18	1	1	EA22505030	Elect	2.2μF	50V
CG19	1	1	EA10505030	Elect	1μF	50V
CG20	1	1	EA10505030	Elect	1μF	50V
CG21	1	1	EA47405030	Elect	0.47μF	50V
CG22	1	1	EA47405030	Elect	0.47μF	50V
CG23	1	1	EA33405030	Elect	0.33μF	50V
CG24	1	1	EA33405030	Elect	0.33μF	50V
CG25	1	1	DF15154350	Film	0.15μF ±5%	
CG26	1	1	DF15154350	Film	0.15μF ±5%	
CG27	1	1	DF15823350	Film	0.082μF ±5%	
CG28	1	1	DF15823350	Film	0.082μF ±5%	
CG29	1	1	DF15393350	Film	0.039μF ±5%	
CG30	1	1	DF15393350	Film	0.039μF ±5%	
CG31	1	1	DF15183350	Film	0.018μF ±5%	
CG32	1	1	DF15183350	Film	0.018μF ±5%	
CG33	1	1	DF15822350	Film	8200pF ±5%	
CG34	1	1	DF15822350	Film	8200pF ±5%	
CG35	1	1	DF15472350	Film	4700pF ±5%	
CG36	1	1	DF15472350	Film	4700pF ±5%	
CG37	1	1	EA10505030	Elect	1μF	50V
CG38	1	1	EA10505030	Elect	1μF	50V
CG39	1	1	EA47405030	Elect	0.47μF	50V
CG40	1	1	EA10505030	Elect	1μF	50V
CG41	1	1	EA10605030	Elect	10μF	50V
CG42	1	1	EA10605030	Elect	10μF	50V
CG43	1	1	EA10605030	Elect	10μF	50V
CG44	1	1	EA10605030	Elect	10μF	50V
CG45	1	1	EA10605030	Elect	10μF	50V
CG46	1	1	EA10605030	Elect	10μF	50V
CG47	1	1	EA10605030	Elect	10μF	50V
CG48	1	1	EA22703530	Elect	220μF	35V
CG49	1	1	EA22602530	Elect	22μF	25V
CG50	1	1	EA22602530	Elect	22μF	25V
CG51	1	1	EA47601630	Elect	47μF	16V
CG52	1	1	EA47601630	Elect	47μF	16V

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION		
CG53	1	1	EA47701630	Elect	470μF	16V
CG54	1	1	EA47701630	Elect	470μF	16V
CG55	1	1	EA33701630	Elect	330μF	16V
CG56	1	1	EA33701630	Elect	330μF	16V
CG57	1	1	EA22702530	Elect	220μF	25V
CG58	1	1	EA22702530	Elect	220μF	25V
CG59	1	1	EA22802530	Elect	2200μF	25V
CG60	1	1	EA22802530	Elect	2200μF	25V
CG61	1	1	EA47505030	Elect	4.7μF	50V
CG62	1	1	EA47505030	Elect	4.7μF	50V
CG63	1	1	EA10405030	Elect	0.1μF	50V
CG64	1	1	EA10405030	Elect	0.1μF	50V
CG65	1	1	EA10701030	Elect	100μF	10V
CG66	1	1	EA10801630	Elect	1000μF	16V
				PG01-RESISTORS (All Resistors are ±5% & ¼W)		
RG01	1	1	GD05273140	27KΩ		
RG02	1	1	GD05273140	27KΩ		
RG03	1	1	GD05273140	27KΩ		
RG04	1	1	GD05273140	27KΩ		
RG05	1	1	GD05273140	27KΩ		
RG06	1	1	GD05273140	27KΩ		
RG07	1	1	GD05273140	27KΩ		
RG08	1	1	GD05273140	27KΩ		
RG09	1	1	GD05330140	33Ω		
RG10	1	1	GD05330140	33Ω		
RG11	1	1	GD05330140	33Ω		
RG12	1	1	GD05330140	33Ω		
RG13	1	1	GD05680140	680Ω		
RG14	1	1	GD05680140	680Ω		
RG15	1	1	GD05823140	82KΩ		
RG16	1	1	GD05823140	82KΩ		
RG17	1	1	GD05224140	220KΩ		
RG18	1	1	GD05224140	220KΩ		
RG19	1	1	GD05224140	220KΩ		
RG20	1	1	GD05563140	56KΩ		
RG21	1	1	GD05822140	8.2KΩ		
RG22	1	1	GD05183140	18KΩ		
RG23	1	1	GD05104140	100KΩ		
RG24	1	1	GD05104140	100KΩ		
RG25	1	1	GD05103140	10KΩ		
RG26	1	1	GD05153140	15KΩ		
RG27	1	1	GD05103140	10KΩ		
RG28	1	1	GA05390010	39Ω		
RG29	1	1	GA05390010	39Ω		
RG30	1	1	GA05390010	39Ω		
RG31	1	1	GA05390010	39Ω		
RG32	1	1	GA05390010	39Ω		
RG33	1	1	GA05390010	39Ω		
RG34	1	1	GD05561140	560Ω		
RG35	1	1	GD05183140	18KΩ		
RG36	1	1	GD05183140	18KΩ		
RG37	1	1	GD05104140	100KΩ		
RG38	1	1	GD05104140	100KΩ		
RG39	1	1	GD05272140	2.7KΩ		
RG40	1	1	GD05272140	2.7KΩ		

• (F): for Japan
• (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
RG41	1	1	GDO5562140	5.6KΩ
RG42	1	1	GDO5562140	5.6KΩ
RG43	1	1	GDO5223140	22KΩ
RG44	1	1	GDO5223140	22KΩ
RG45	1	1	GDO5273140	27KΩ
RG46	1	1	GDO5273140	27KΩ
⚠RG47	1	1	GGO5101140	100Ω
⚠RG48	1	1	GGO5101140	100Ω
RG49	1	1	GDO5103140	1KΩ
RG50	1	1	GDO5103140	1KΩ
⚠RG51	1	1	GAO5470010	47Ω 1W
⚠RG52	1	1	GAO5470010	47Ω 1W
⚠RG53	1	1	GGO5102140	1KΩ
⚠RG54	1	1	GGO5102140	1KΩ
⚠RG55	1	1	GGO5122120	1.2KΩ ½W
RG56	1	1	GDO5221140	220Ω
RG57	1	1	GDO5223140	22KΩ
RG58	1	1	GDO5105140	1MΩ
RG59	1	1	GDO5223140	22KΩ
⚠RG60	1	1	GGO5222140	2.2KΩ
RG61	1	1	GDO5103140	10KΩ
RG62	1	1	GDO5103140	10KΩ
				PG01-SEMICONDUCTORS
DG01	1	1	HD30012020	Zener MA1150M
DG02	1	1	HD30012020	Zener MA1150M
DG03	1	1	HD20001000	Diode 1S1555
⚠DG04	1	1	HD30022030	Diode DSF10C
⚠DG05	1	1	HD20022030	Diode DSF10C
⚠DG06	1	1	HD20022030	Diode DSF10C
⚠DG07	1	1	HD20022030	Diode DSF10C
⚠DG08	1	1	HD20022030	Diode DSF10C
⚠DG09	1	1	HD20022030	Diode DSF10C
⚠DG10	1	1	HD20022030	Diode DSF10C
⚠DG11	1	1	HD20022030	Diode DSF10C
⚠DG12	1	1	HD20022030	Diode DSF10C
⚠DG13	1	1	HD20022030	Diode DSF10C
QG01	1	1	HT403131E0	Transistor 2SD313(E)
QG02	1	1	HT205071E0	Transistor 2SB507(E)
QG03	1	1	HT327851F0	Transistor 2SC2785(F)
QG04	1	1	HT+27851F0	Transistor 2SC2785(F)
QG05	1	1	HT106842B0	Transistor 2SA684(Q, R)
QG06	1	1	HT106842B0	Transistor 2SA684(Q, R)
QG07	1	1	HT106842B0	Transistor 2SA684(Q, R)
QG08	1	1	HT106842B0	Transistor 2SA684(Q, R)
QG09	1	1	HT106842B0	Transistor 2SA684(Q, R)
QG10	1	1	HT106842B0	Transistor 2SA684(Q, R)
QG11	1	1	HT106842B0	Tansistor 2SA684(Q, R)
QG12	1	1	HC10003090	IC NJM4558D
QG13	1	1	HC10003090	IC NJM4558D
QG14	1	1	HC10003090	IC NJM4558D
QG15	1	1	HC10108030	IC STK-6325A
QG16	1	1	HC10108030	IC STK-6325A
QG17	1	1	HC10109030	IC STK-6325C
QG18	1	1	HC10109030	IC STK-6325C
QG19	1	1	HC10053020	IC AN6882
QG20	1	1	HC10053020	IC AN6882
QG21	1	1	HC10053020	IC AN6882
QG22	1	1	HC38508090	IC NJM78M08A

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
				PG01-MISCELLANEOUS
JG01	1	1	YJ06002390	Jack, (5P)
JG02	1	1	YJ06002390	Jack, (5P)
JG03	1	1	YJ06002460	Jack, (7P)
JG04	1	1	YJ06002430	Jack, (3P)
JG05	1	1	YJ06002270	Jack, (8P)
JG06	1	1	YJ06002270	Jack, (8P)
JG07	1	1	YJ06002460	Jack, (8P)
WG01	1	1	YU02180260	Jumper Lead, Wire
WG02	1	1	YU05140260	Jumper Lead, Wire
WG03	1	1	YU05140260	Jumper Lead, Wire
WG04	1	1	YU05140260	Jumper Lead, Wire
WG05	1	1	YU05140260	Jumper Lead, Wire
WG06	1	1	YU05140260	Jumper Lead, Wire
				PJ01-EQ VOLUME CIRCUIT BOARD
PJ01	1	1	YK030H2420	P.W. Board, EQ Volume
		1	ZZ030H2420	P.W. Board Assembly
				PJ01-RESISTORS
RJ01	1	1	RS05030470	50KΩ, Variable
RJ02	1	1	RS05030470	50KΩ, Variable
RJ03	1	1	RS05030470	50KΩ, Variable
RJ04	1	1	RS05030470	50KΩ, Variable
RJ05	1	1	RS05030470	50KΩ, Variable
RJ06	1	1	RS05030470	50KΩ, Variable
RJ07	1	1	RS05030470	50KΩ, Variable
RJ08	1	1	RS05030470	50KΩ, Variable
RJ09	1	1	RS05030470	50KΩ, Variable
RJ10	1	1	RS05030470	50KΩ, Variable
				PK01-POWER SWITCH CIRCUIT BOARD
PK01	1	1	YK030H2430	P.W. Board, Power Switch
		1	ZZ030H2430	P.W. Board Assembly
⚠GK01	1	1	DK18103850	Ceramic Cap. 0.01μF
⚠SK01	1	1	SP01010650	Push Switch, Power
				PN01-LED CIRCUIT BOARD
PN01	1	1	YK030H2440	P.W. Board, L.E.D.
		1	ZZ030H2440	P.W. Board Assembly
DN01	1	1	HI10052020	L.E.D. LN250RPH(RED)
				PS01-CHORUS/ECHO SWITCH CIRCUIT BOARD
PS01	1	1	YK030H1920	P.W. Board, Chorus/Echo Switch
		1	ZZ030H1920	P.W. Board Assembly
SS01	1	1	SP02010870	Push Switch, Chorus/Echo

• (F): for Japan
• (P): for PX

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
				PT01-EQUALIZER SWITCH CIRCUIT BOARD
PT01	1	1	YK030H1930	P.W. Board, Equalizer Switch
		1	ZZ030H1930	P.W. Board, Equalizer Switch
ST01	1	1	SP02010870	Push Switch, EQ On/Off
				PV01-MASTER VOLUME CIRCUIT BOARD
PV01	1	1	YK030H1950	P.W. Board, Master Volume
		1	ZZ030H1950	P.W. Board Assembly
RV01	1	1	RM05031120	50KΩ(B), Variable
				PW01-MIC JACK CITCUIT BOARD
PW01	1	1	YK030H1960	P.W. Board, Mic Jack
		1	ZZ030H1960	P.W. Board Assembly
JW01	1		YJ01002110	Jack, Mic 1 Input
JW01		1	YJ01001780	Jack, Mic 1 Input
JW02	1		YJ01002110	Jack, Mic 2 Input
JW02		1	YJ01001780	Jack, Mic 2 Input

REF. DESIG.	Q'TY F	Q'TY P	PART NO.	DESCRIPTION
				PX01-GUITAR JACK CIRCUIT BOARD
PX01	1	1	YK030H1970	P.W. Board, Guitar Jack
		1	ZZ030H1970	P.W. Board Assembly
JX01	1		YJ01002110	Jack, Guitar 1 Input
JX01		1	YJ01001780	Jack, Guitar 1 Input
JX02	1		YJ01002110	Jack, Guitar 2 Input
JX02		1	YJ01001780	Jack, Guitar 2 Input
RX01	1	1	GD05102140	Resistor 1KΩ ±5% ¼W
RX02	1	1	GD05102140	Resistor 1KΩ ±5% ¼W
				PY01-HEAD PHONE JACK CIRCUIT BOARD
PY01	1	1	YK030H1980	P.W. Board, Head Phone Jack
		1	ZZ030H1980	P.W. Board Assembly
JY01	1		YJ01002080	Jack, Phone
JY01		1	YJ01001790	Jack, Phone
				PZ01-PIN JACK CIRCUIT BOARD
PZ01	1	1	YK030H1990	P.W. Board, Pin Jack
		1	ZZ030H1990	P.W. Board Assembly
JZ01	1	1	YT02020420	Terminal

(W01-00)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

8. TECHNICAL SPECIFICATIONS

Input sensitivity/impedance	
Mic 1/2	2 mV/20 kΩ
Line, tape	150 mV/47 kΩ
Guitar/Keyboard	50 mV/47 kΩ
Maximum input	
Mic 1/2	100 mV (RMS), 1 kHz
Line, tape	6 V (RMS), 1 kHz
Frequency responce	
Mic, line, tape	20 Hz ~ 20 kHz, ± 1 dB
Equalizer characteristics	±12 dB at each frequency
Distortion	
Line, tape	0.03%, 1 kHz, 1V input
S/N	
Line (JIS A)	70 dB
BBD echo (Electronic type)	
Delayed time	100m SEC
Echo time	0 ~ 2 SEC

GENERAL

Power Requirements	110 ~ 120/220 ~ 240 V AC, 50/60 Hz
Power Consumption	18 W
Dimensions	
Panel Width	16-3/8" (416 mm)
Panel Height	5-1/32" (128 mm)
Depth	10-1/4" (260 mm)
Weight	
Unit alone	9.7 lbs (4.4 kg)

ACCESSORY

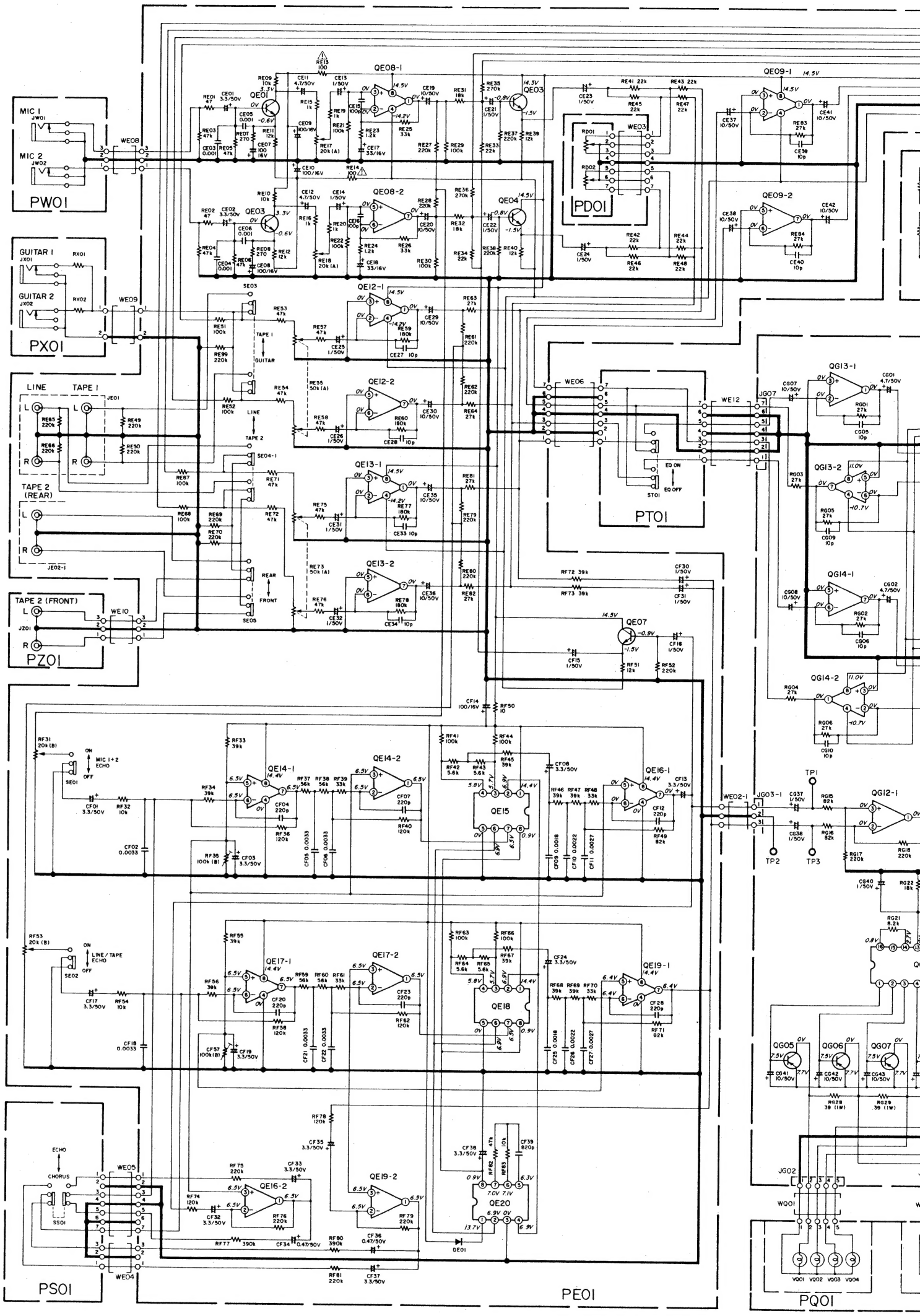
Pin Cord (Stereo)	2

Specifications and appearance are subject to change for modification without notice.

MEMORANDUM

9. SCHEMATIC DIAGRAM

QE01, QE02 HT32784IF0 2SC2784(F)	QE03∿QE07 QG03, QG04 HT32785IF0 2SC2785(F)	QE08, QE09, QE11∿QE14 QE16, QE17, QE19 QG12∿QG14 HCI0003090 NJM4558	QE10 HCI0016090 NJM4556	QE15, QE18 HCI0049020 MN3008	QE20 HCI0044020 MN3101	QG01 HT403131E0 2SD313	QG02 HT205071E0 2SB507	QG0 HTI 2SA



Components and wiring are subject to change for modification without notice.

Model EQ430

QG02
HT205071E0
2SB507

QG05∿QG11
HT106842B0
2SA684

QG15, QG16
HC10108030
STK-6325A

QG17, QG18
HC10109030
STK-6325C

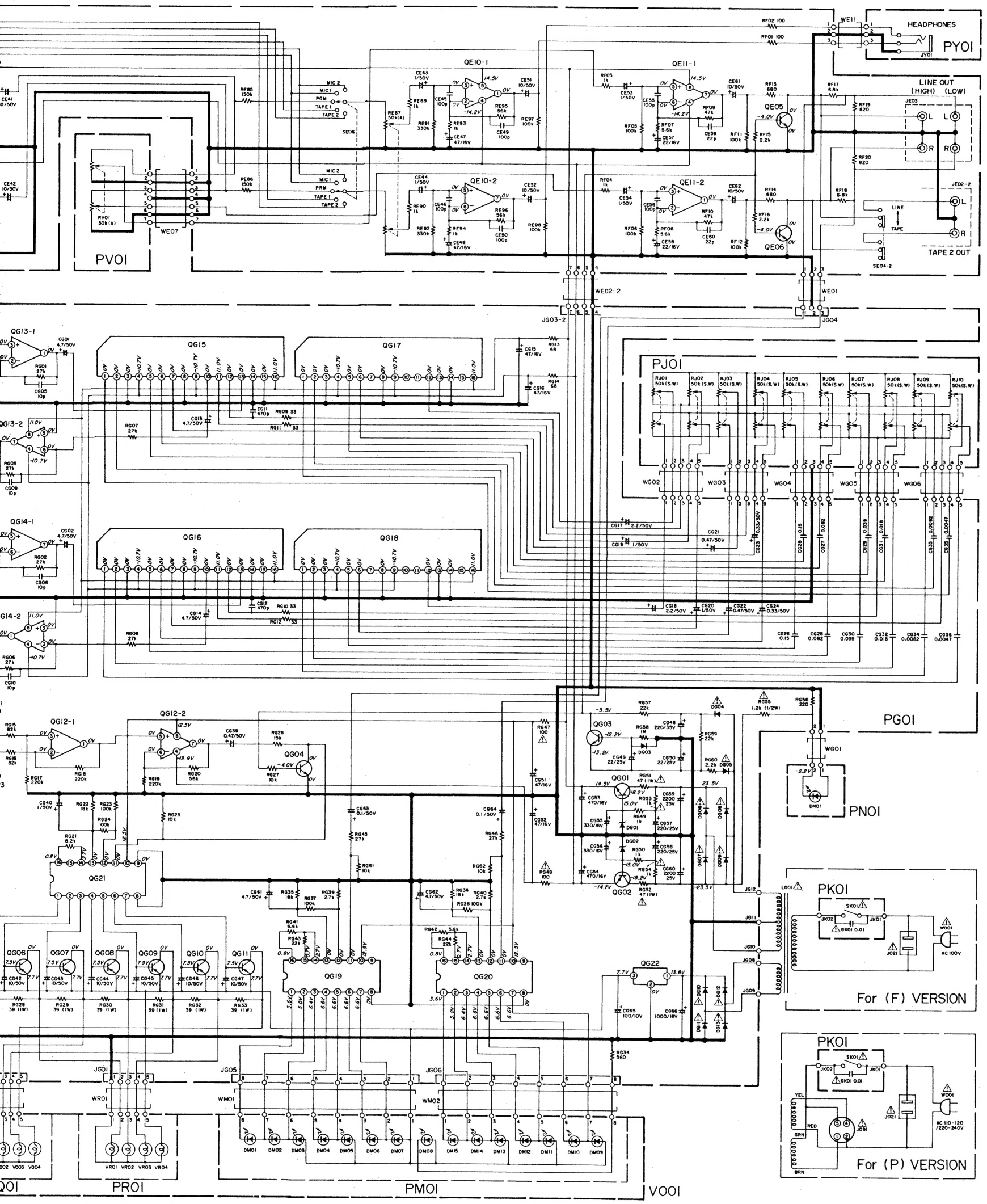
QG19∿QG21
HC10053020
AN6882

QG22
HC38508090
NJM78M08A

DE01, DG03
HD20001000
IS2076, IS1555, e.t.c

DG01, DG02
HD30012020
MA1150M

DG04∿DG13
HD200220030
DCF10C



2SC2784(F)
QE01, QE02

2SC2785(F)
QE03∿QE07
QG03, QG04

2SA684
QG05∿QG11

2SD313
QG01

2SB507
QG02

NJM78M08A
QG22

INPUT OUTPUT GND

TOP VIEW

NJM4558D
QE08, QE09
QE11∿QE14
QE16, QE17, QE19
QG12∿QG14

NJM4556
QE10

TOP VIEW

MN3101
QE20

TOP VIEW

AN6882
QG19∿QG21

TOP VIEW

MN3008
QE15, QE18

FRONT VIEW

STK-6325A QG15, QG16
STK-6325C QG17, QG18

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